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University Hospital

at Boston University Medical Center

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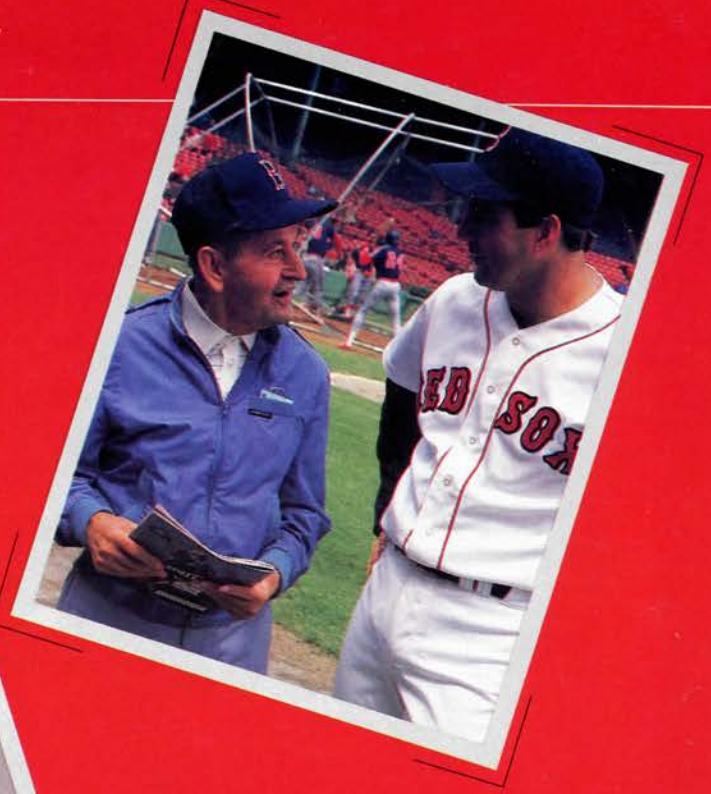

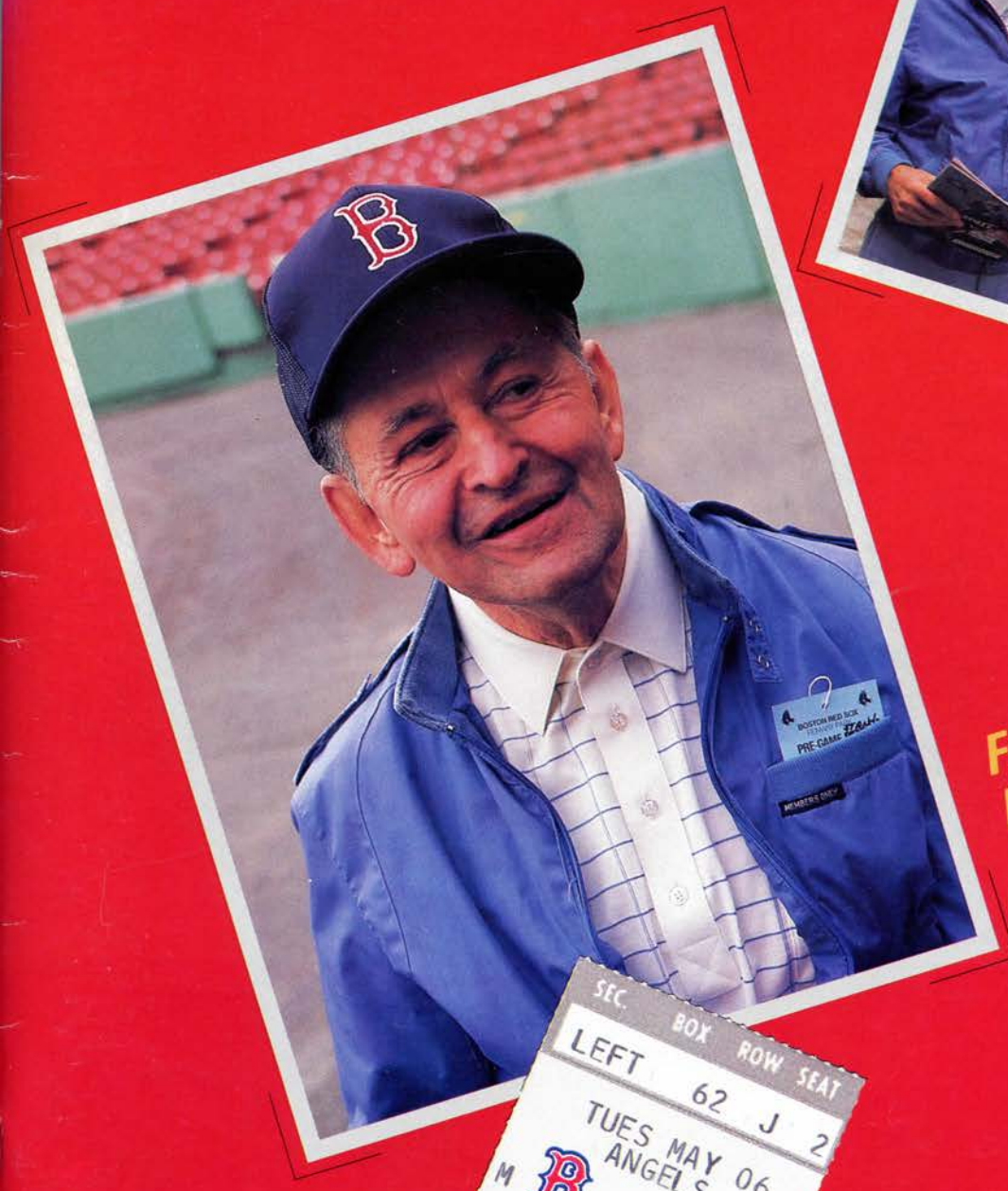

Fred Russi Is Back In The Game

ALSO: The Struggle To Overcome Spinal Cord Injury

1985 **Annual Report:** Quality Patient Care

Letter from the editors

The reader will find in this issue of *University Hospital* a broad variety of news and features. Throughout, the common thread is one of effective innovation—in spinal cord injury, in Parkinson's disease and in magnetic resonance imaging, to mention only a few areas covered.

The point of all this innovation is not that University Hospital is entranced by "newness," but rather that innovation is the reason for a teaching hospital's existence. One could say that a bar of soap is "improved" through the addition of a bit of perfume, or that an auto is "new" because it has a different trunk release. We believe the context differs in health care. Perfume or gimmicks won't improve what society increasingly refers to as our "product," patient care. We can only hope to make it more effective.

Thus, if putting a patient through a drug holiday can help him live more comfortably with his disease, then our "product" has been improved. If placing a plate in the spinal cord of a severely injured person can get her out of bed and into rehabilitation faster, then our product is improved.

In the final analysis, innovation is only a sign that something different is being tried. What counts to us is whether that "something" is effective in helping people to overcome illness and injury.

University Hospital

at Boston University Medical Center

Summer 1986 / Volume 4 / Number 1

University Hospital is published twice each year to report on the activities and programs of University Hospital at Boston University Medical Center. The magazine is published by the Office of Informational Services, Boston University Medical Center, 720 Harrison Ave., Boston MA 02118. Owen J. McNamara, OIS director, is editor. April L. Lindner, assistant editor. Marjorie H. Dwyer, associate director of OIS. Jerome Schuerger, art director. Donald R. Giller is director of marketing and public affairs.

About University Hospital

University Hospital, founded in 1855, is a teaching hospital of Boston University School of Medicine. The Hospital provides a full spectrum of medical services. Its 379 beds include many special-care units, including psychiatry, coronary care, metabolic, medical intensive care, surgical intensive care, the New England Regional Center for Brain Injury, the New England Regional Spinal Cord Injury Center, the Wald Neurological Unit, the Respiratory Care Center, the New England Male Reproductive Center and the University Continence Center. University Hospital, Boston University School of Medicine and the University's Goldman School of Graduate Dentistry constitute Boston University Medical Center.

Credits: Photography—Pages 1 (bottom), 2, 3, 4, 5, 7, 8, 10, 11, 12 (top and bottom right), 14, 15, 16, 18 (top), 19, 21, 22, 25, 26, 27, 29 (top), 31, Back Cover—Bradford F. Herzog; Page 12 (bottom left)—Courtesy Wilfred Russi; Page 1 (top)—Lou Jones; Page 17, 20, Boston University School of Medicine Educational Media Support Center (EMSC); Page 18 (bottom)—Lucy Milne, EMSC; Page 23—Ted Fitzgerald, courtesy of the *Boston Herald*; Page 24—Alice Rose, R.N., Nursing Department; Page 28—Michael Valentine; Pages 29 (bottom), 30—Ami Israel. Illustration—Page 9—Janice Cleary, EMSC. *Annual Report* photography—Cover—Lou Jones; Pages 2, 3, 4, 5, 6—Bradford F. Herzog.

Cover: The man in the Red Sox cap, smiling in close-up and chatting with star Sox pitcher Bruce Hurst, is Fred Russi of Greenville, R.I. Russi's story begins on Page 12. Photos by Bradford F. Herzog; design by Jerome Schuerger.

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Roughly eight weeks after his injury, he is learning to walk again

BY RICHARD P. ANTHONY

Fighting Back From Spinal Cord Injury

Kevin Hollister passes a milestone, proves his injury can't keep him down

KEVIN Hollister, a husky, bearded man, is embarked on a slow, halting journey around the spacious exercise room at the New England Regional Spinal Cord Injury Center, a part of University Hospital.

Hollister is using an aluminum walker, and his legs are strapped into aluminum braces. The braces, needed to keep his paralyzed legs stiff, give his movements a robot-like quality. Swing one leg forward...stop...swing the other...stop...swing... stop...swing...stop.

Words of encouragement

Supporting him from behind, to guard against a fall, is Susanne Lobley, R.P.T., the Spinal Cord Center's head physical therapist. From time to time, she quietly murmurs encouragement or gives instructions. "The thing you should think about, instead of just swinging one leg and then moving up to the walker, is..."

"Taking two steps at a time?" asks Hollister, guessing her point.

"Yes, two steps," says Lobley.

Their exchanges are not all about his walking techniques. There is some joshing, too.

"I'm going to be getting a 'cleaning' next week," says Hollister, indicating with a head gesture that he is talking about his beard. "Everything's going except the mustache."

Lobley studies the threatened beard. "I won't recognize you," she says, in mock disapproval.

Mostly, though, this is serious business. As Hollister comes to the end of his walk—which has covered about 100 feet—sweat is rolling down his forehead.

The journey is one that Hollister could not have imagined making two months earlier. The western Massachusetts resident has his own landscaping business, and that meant he was involved day-in and day-out in tough physical labor. "I used to do 92 lawns a week," he says, "so I was walking an average of about 30 miles a day."

But an accident—a fall through a roof when he was helping out on a construction project—badly injured his spinal cord. Paralyzed from the waist down, he was brought to University Hospital. And it is here, roughly eight weeks after his injury, that he is learning to walk again.

Hollister will almost surely never walk again without the aid of crutches, says Lobley, and probably will rely on his wheelchair when outside his home. Still, learning the technique will allow him to walk around when he is indoors. It also marks a key psychological milestone: He has proven that his injury, though serious, cannot keep him from getting back up on his feet.

Patient Kevin Hollister works out, with support from therapist Susanne Lobley.

The spinal cord: A remarkable structure that lacks a crucial trait—ability to regenerate

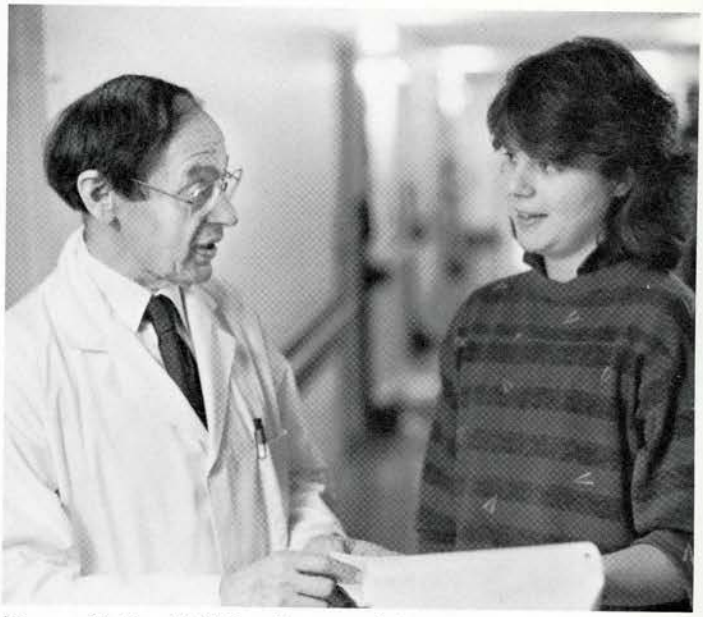
ALTHOUGH fighting back from a spinal cord injury is very much an individual struggle, Kevin Hollister is but one of many people who are forced to undertake the effort each year. According to James E. Reed, M.D., a UH neurosurgeon, roughly 35 million Americans injure their spinal cords annually. By far the most frequent cause of the injuries is highway accidents, with falls second, and, in this region, diving accidents third.

The cord is a half-inch bundle of nerves through which the brain shoots commands to all different parts of the body, and receives messages back. But though a remarkable part of a remarkable communications system, the spinal cord lacks one crucial trait: the ability to regenerate itself. Spinal cord injuries, therefore, almost always mean complete or partial paralysis. If the injury is in the part of the cord that travels through the chest or abdomen (Hollister's affected the region in the middle of his back), usually the legs and other areas below the waist are affected. Patients with this type of injury are called paraplegics. If it is in or near the neck region, the arms and chest are paralyzed, too. These patients are called quadriplegics.

Outlook changes dramatically

Until earlier in this century, many patients who received spinal cord injuries died as a result. Those who lived, moreover, often had little hope of resuming a meaningful role in society. Many would spend years in special institutions for the disabled. Others lived at home, unable to work and dependent on family members or other sources of help.

Since then, the outlook for spinal-cord injured patients has changed dramatically. This is partly because of changes in society's attitudes toward the handicapped. It is now widely accepted, for example, that public buildings should be accessible to people in wheelchairs. The improved outlook also arises from advances in treating and rehabilitating patients with spinal cord injuries. Many of the developments have emerged from the work of centers such as UH's New England Regional Spinal Cord Injury Center, which is one of 13 federally designated regional spinal cord centers in the nation, and the oldest center of its kind in the nation.



Murray M. Freed, M.D., director of the New England Regional Spinal Cord Injury Center, confers with primary nurse Martha Blowney, R.N.

According to Murray M. Freed, M.D., the Spinal Cord Injury Center's director and the chief of Rehabilitation Medicine, most paraplegics can learn to carry on virtually all the normal activities of daily life other than walking. Many can hold down jobs. Some even perform extraordinary athletic feats, like participating in wheelchair marathons.

Quadriplegics are much more limited, but even they can learn to perform tasks that would have seemed unimaginable a generation ago.

"Let's take an individual who has an injury that leaves him able to move his shoulders and his elbow, but unable to move any part of his extremities, including his hands," says Freed. "That person will learn how to get from his bed to his wheelchair and back again. He will learn to write by using a pen attached to what we call an adapter cuff, which fits on his wrist. Using the same device, he'll also learn to brush his teeth and comb his hair."

Even a quadriplegic who is unable to move his arms can still operate an electric wheelchair with the aid of a "sip-puff" device—a tube through which the user transmits commands by blowing out or sucking in. Such devices also allow patients to run computers, switch appliances on and off, and operate electrically-adjustable beds.

The challenges increase

An intensive rehabilitation effort is needed, however, to impart many of the skills that those with spinal cord injuries learn. And though techniques and equipment have improved, changes in the patient population have at the same time increased the challenges facing the rehabilitation team.

"Ten years ago, most of the spinal-cord patients we saw were middle-aged men who were injured on the job," says Freed, who is chairman of the School of Medicine's Department of Rehabilitation Medicine. "The injury hit them hard, but most of them were emotionally able to deal with it.

"Today, most of our patients are men between 18 and 28," he continues. "Many of them have been very active people, and then all of a sudden they're confronted with this monumental change in their circumstances: They're paralyzed, they need help in dressing, bathing, and eating, they can't control their bowel and bladder. There's no way a young man can be prepared to deal with all of that." □

A corps of specialists works from time of injury toward early rehabilitation and long-term care

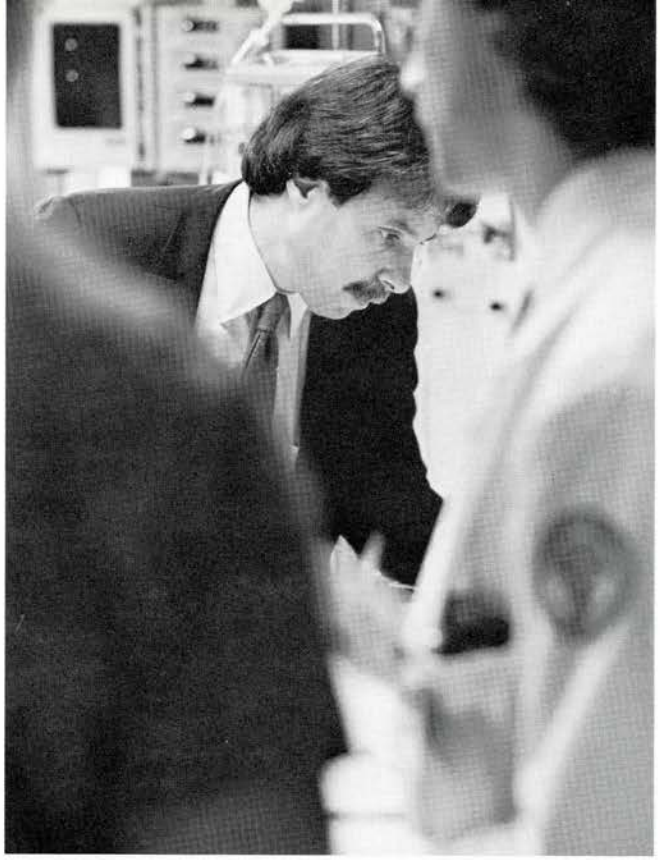
HELPING spinal-cord injured patients overcome the physical and emotional effects of their injuries requires a large corps of specialists. Involved in the care of these patients at University Hospital, besides rehabilitation specialists like Murray M. Freed, M.D., are neurosurgeons, orthopedic surgeons, psychologists, nurses, physical therapists and occupational therapists.

Also working with both the patients and their families is the Center's social worker, Fran Curran, M.S.W. Her role includes dealing with the near-term problems of individuals who have been wrenched out of their normal work and home settings, and laying the groundwork for a productive life once a patient leaves the Center.

In rehabilitation, a key principle is to take advantage of the capabilities that remain following an injury. "You can liken the person with a spinal cord injury to a blind person," says Freed. "The blind person's other senses are no better than anyone else's, but that person is making those senses do double duty."

With the advent of Boston Med Flight, the helicopter emergency service sponsored by University Hospital and seven other area medical centers, more and more such patients are being brought directly to UH. And from the standpoint of both short-term care and rehabilitation, that is a welcome development, says Freed.

"The best way to think of all the ramifications of these injuries is to see them immediately, and to begin planning for everything—the surgery, the immediate medical care, and the long-term program of care and rehabilitation," he explains.



Neil S. Yeston, M.D., director of critical care, makes rounds in the UH Surgical Intensive Care Unit.

Many patients who come to UH directly from the scene of their accidents will go first to the Emergency Room, and from there—except in cases calling for immediate surgery—to UH's Surgical Intensive Care Unit.

In the first hours and days of treatment, the SICU staff gives priority to dealing with potentially life-threatening problems, says Neil S. Yeston, M.D., the Hospital's director of critical care and an associate professor of surgery and anesthesiology at Boston University School of Medicine. Many spinal-cord injured patients have other injuries as well. They also are vulnerable to infections. For example, some patients are at high risk for pneumonia—especially those who are unable to breathe and must be hooked up to a form of artificial lung called a ventilator.

"Preventing pneumonia, and helping individuals who cannot breathe for themselves regain that ability, is the most formidable challenge we face," says Yeston.

Protecting the spine

In addition, the SICU team must make sure the spine is protected. "The more quickly you can stabilize the patient's spine, and keep it stablized, the less the risk of additional injury," says Yeston. "We usually put patients in traction by attaching something we call tongs to their heads. These are steel structures

Even as the SICU team works on the patient, the process of rehabilitation can start

that have a series of weights that hang down over the end of the bed, and they keep the spine immobilized." *(For a description of a new method for permanently stabilizing patients' spines, see page 8.)*

Even as the intensive-care team is working to protect patients from disease or further injury, however, the rehabilitation process also may be starting. With many patients, for example, an early activity is exercising the muscles involved in breathing.

According to physical therapist Susanne Lobley, patients often lose the use of the chest muscles that aid in breathing, but they tend to retain use of the diaphragm—the layer of muscle between the chest and stomach that provides close to two-thirds of our breathing power. Physical therapists can help such patients with a variety of exercises aimed at strengthening the diaphragm, such as breathing with weights strapped to the chest.

"We can even help patients who have lost some of their diaphragm function," says Lobley. "It may seem incredible, but people are still able to breathe for themselves even if only half their diaphragm works."

Once patients are out of immediate danger, they go to the Spinal Cord Center, a 24-bed unit that occupies the top floor of UH's Preston Family Building. There, rehabilitation starts in earnest.

The main job of the Center's physical therapy staff is to teach patients how to compensate for their loss of ability to perform basic movements: standing up, sitting down, walking, getting in and out of bed. Using weights, braces, wheelchairs and other such aids, the patients learn new ways to get around.

Tackling the needed tasks

The occupational therapy staff, meanwhile, teaches patients how to to accomplish other types of tasks: writing, eating, combing their hair, using the phone.

"We start by looking at where they're going when they leave the Center," says Colleen Tenney, O.T.R., occupational therapy supervisor. "For example, if they're going to be living by themselves, we might have them practice making meals in our kitchen."

For the more seriously injured patients, of course, even so seemingly simple a task as frying an egg is impossible. Yet such patients often can learn to accomplish feats that, in the context of their injuries, are little short of miraculous.

Consider a quadriplegic who has lost the use of his hands and fingers, but can bend his wrists. A hand bent back at the wrist, under the guidance of a skilled occupational therapist, becomes a partial replacement for the fingers. A quadriplegic can use that hand to perform such tasks as putting on his pants while lying in bed.

Tenney adds that the chore, which involves dozens of separate steps, seldom becomes part of the daily routine of most quadriplegics. "It takes about an hour, and they're not going to spend an hour every day putting on their pants," she says. "They learn it, though, so that if they're ever left alone they know how to do it."

Some of the tasks are not only hard to do, but take long hours of often boring practice. Keeping patients motivated, therefore, is a crucial concern.

Many patients exhibit a remarkable ability to motivate themselves. "They realize that the harder they work, the more they're going to learn," says Susanne Lobley. Much of the task of keeping patients going, though, falls to the Center's staff. And this is where staff members' skills and experience meet their sternest test, says Marilyn Pires, R.N., a clinical nurse specialist and clinical instructor in rehabilitation medicine at BUSM.

Goals are individualized

"You can't say to every patient, 'Okay, this is your level of injury, so here are your goals,'" she notes. "You have to take a lot of different factors into account—things like emotional status and family situation." One necessary tactic is being firm with patients who try to wriggle out of their exercises. Teenaged patients especially, notes Pires, are likely to try to put one over on the staff: "'So-and-so said I didn't have to do that.'" The fact that staff members work so closely with one another, and with patients, means such gambits rarely work, she adds.

Pires notes, however, that resistance to using newly learned skills does not always stem from a teenage-style resistance to authority. "You might say to a patient, 'Okay, here's your basin to wash up,'" she says, "and then you find you're having to go in there six or seven times to say, 'How're you coming? Have you washed up yet?' The whole time, you're aware that the reason the patient isn't washing up is because the activity brings back so forcefully the fact that he's disabled. Getting that person to use those skills despite the emotions he's feeling is the real art of rehabilitation nursing."

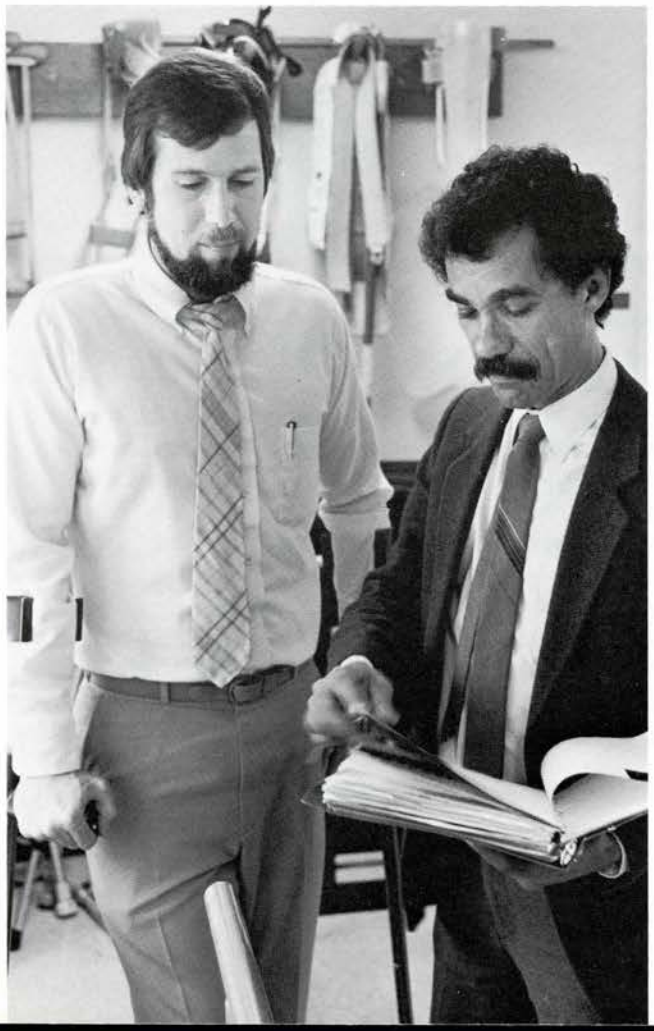
Staff members in the Spinal Cord Injury Center also must be able to judge when it is appropriate to put aside the firm approach. "There are times when all patients need is somebody who will acknowledge their feelings," says Pires, "somebody who will give them permission to be sad, to be angry, to be resentful..." □

For many, dealing with the injury's impact on emotions is the toughest challenge of all

FOR many Spinal Cord Injury Center patients, coming to terms with the emotional impact of their disabilities is much harder than learning new physical skills, says Stanley Ducharme, Ph.D., the Center's director of rehabilitation psychology and an associate professor of rehabilitation medicine at Boston University School of Medicine.

The first weeks following the injury often are devoted to helping patients confront the reality of their disabilities, notes Ducharme. "Before people can really put themselves into learning new techniques and can start feeling good about what they've accomplished," he explains, "they have to let go of what they no longer can do, which means going through a kind of mourning period."

Stanley Ducharme, Ph.D., right, director of rehabilitation psychology at UH, discusses a patient's case with intern Scott Smith, a doctoral candidate at the Massachusetts School of Professional Psychology.



An especially tough challenge is dealing with the loss of basic functions. Many patients, for example, lose control over bowel and bladder, along with certain sexual capabilities.

Sexual identity a key issue

"The loss of sexual function can be a devastating blow to patients' sense of themselves," says Ducharme. "Without a solid sense of sexual identity, they tend to isolate themselves, they may not want to go back to work, they may end whatever relationships they're involved in because they feel unworthy."

Members of the Center's psychology staff work hard to help patients avoid that psychological dead-end.

"We try to teach the concept that being in a loving relationship goes far beyond having a certain set of physical attributes," says Ducharme. "To be a good father, for example, doesn't mean you have to be out in the backyard throwing a ball around. You can be a good father in many other ways, but it means reworking your thinking."

Ducharme says that while most patients may eventually learn the validity of such concepts, few really ever come to accept their fate. Indeed, he notes, it is because spinal-cord injured persons are human that they cannot avoid episodes of sadness and resentment.

"If they see something that really very poignantly reminds them of what they used to do—the softball team at work winning the championship—those kinds of things are going to stir up those painful emotions all over again," he notes.

On the other hand, says the psychologist, most patients do come to terms with their disabilities, and learn to carry on—holding jobs, having relationships, developing hobbies—despite them.

"Part of the reason that I like working in this field, as corny as it sounds, is that you really do get a sense of the strength of the human spirit," explains Ducharme. "It's amazing how resilient people are. And that's why rehabilitation is not a depressing field, as so many people assume it must be. Every day, you get to see people triumph over what are really incredible amounts of loss." □

'Every day, you get to see people triumph over what are incredible amounts of loss...'

Getting Started Sooner

A promising new spinal cord surgical approach

YOU'RE lying in bed, looking up at the ceiling. With an effort, you can roll from side to side. Otherwise, you cannot move at all. This means that if, say, you want to watch television, you cannot sit up to do it, or even raise your head. Instead, you have to wear a special type of glasses that bends the image so that it will reach your eyes.

Periodically, physicians, nurses, therapists, come into the room to take care of you. Except possibly for visits by friends and members of your family, they are your only human contact, for up to three months.

Orthopedic surgeon Isadore G. Yablon, M.D., left, and Neurosurgery Chief Edward L. Spatz, M.D., examine x-ray of a spinal cord-injured patient. The procedure developed by Yablon is aimed at stabilizing and decompressing the spine.

For most of us, the situation sounds like a special sort of nightmare. Until recently, however, it was the only alternative for most victims of serious spinal cord injuries in the months following their accidents.

The immobilization, which was necessary whether patients were in traction or not, allows the bones of the spine to heal and prevents further harm to the spinal cord's delicate nerve fibers. But it also can exact severe physical and emotional costs.

"If you're lying in bed, you're prone to a lot of complications, such as bedsores and pneumonia," says Murray M. Freed, M.D., director of UH's New England Regional Spinal Cord Injury Center. "You're also going to be subject to deconditioning, which can prolong your rehabilitation once you get out of bed."

The psychological impact of such a long stay in bed, moreover, often is worse than the physical. According to Stanley Ducharme, Ph.D., UH's director of rehabilitation psychology, the long stretches of being without normal human contacts and worrying about the future can lead to serious depression. They also can hurt a patient's ability to come to terms with his injury.

"When patients are immobilized, a lot of them will not make any progress in terms of their psychological adjustment because they can always put things off," explains Ducharme. "The attitude is, 'When I get out of bed, I'm going to work hard, I'm going to walk, and so forth.' So for 12 weeks, they're essentially living in a fantasy world."

At University Hospital and a few other centers specializing in spinal-cord treatment, however, there now is an alternative to a long bed stay. With the aid of a new type of procedure partly developed by UH surgeons, many patients can be up in wheelchairs within days of their accidents.

The new procedure has sharply reduced the time required for the early phases of rehabilitation. It also may be improving the long-term recovery patterns for at least some patients.

"The basic goal of the procedure is to stabilize and decompress the spine," says Isadore G. Yablon, M.D., an orthopedic surgeon at University Hospital and a professor of orthopedic and fracture surgery at Boston University School of Medicine, who developed the new approach. "By stabilization, we mean restoring the spine's basic structural capacity. By decompression, we mean removing the bony fragments that are left after the accident and may be pressing against the spinal cord, and also restoring the spine to something close to its normal configuration."

Helps restore blood flow

Decompression can help restore whatever is left of the damaged part of the spinal cord to working order.

And it has other benefits as well, notes UH neurosurgeon James R. Reed, M.D. "Sometimes you get pressure on the major arteries that supply the spinal cord, so the blood flow is not sufficient to meet the needs of the cord," he explains. "With decompression, you can often restore the blood flow to adequate levels."

A procedure that was developed about two decades ago helped solve part of the decompression/stablization problem. Surgeons would approach the spine through the patient's back. That allowed them to stabilize the spine by using stainless steel rods that attached to the bony structure. Unfortunately, says Yablon, the rods often did not succeed in decompressing the spinal cord.

"With the rods alone, you get good stabilization but you're not restoring the spine to its normal configuration," notes the surgeon. "That means part of the spine may still be pressing against the nerve fibers of the spinal cord."

The new technique devised by Yablon and other University Hospital surgeons, however, not only stiffens the spine but also decompresses it. The technique involves attaching small steel plates, which look something like a curved version of a front-door number plate, directly to the front of the spine. These plates, often used in combination with the steel rods in back of the spine, have proven very effective.

"When I put these plates on, the spine is so rigid the patient doesn't even need a collar or a brace," notes Yablon, "and many of them can start rehabilitation within 48 hours of their injuries."

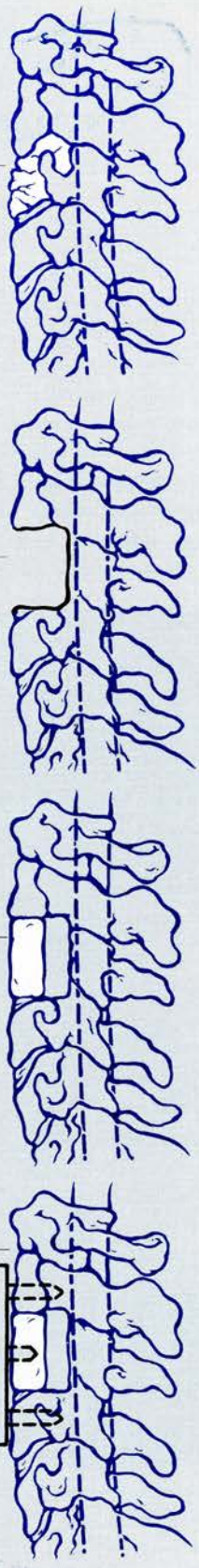
Yablon himself developed a form of plate to use in stablizing the neck region of the spinal column. Others have developed plates for the chest and abdominal sections of the column. All the plates attach with screws to healthy spinal bones above and below the injury.

'The spine is so rigid the patient doesn't even need a collar or a brace'

The procedure can take up to 12 hours, and requires the services of a team made up of at least three different types of surgeons. But Edward L. Spatz, M.D., chief of Neurosurgery and chairman of BUSM's Department of Neurosurgery, says it is well worth the time and resources involved. In fact, he says, UH surgeons are now recommending the procedure for most spinal-cord injury patients who come to the Hospital.

"We're particularly concerned with stabilizing patients who have partially damaged cords, because the potential for further damage is very great," Spatz notes. "We're also using the technique, though, with

How the new spinal cord surgical procedure works



1. Fracture lines mark the traumatized area in the patient's cervical spine. Even partial damage to the spine has the potential for further damage, making early decompression and stabilization a crucial strategy.

2. In the first steps to decompress and stabilize the spinal cord, bony fragments that have been left in the trauma site following the accident are removed, thus relieving the pressure on the spine.

3. A bone graft, taken from patient's ilium (a portion of the hip bone), is implanted in the decompressed area of damage. When fixed into position, the bone graft will give the spine vitally needed support.

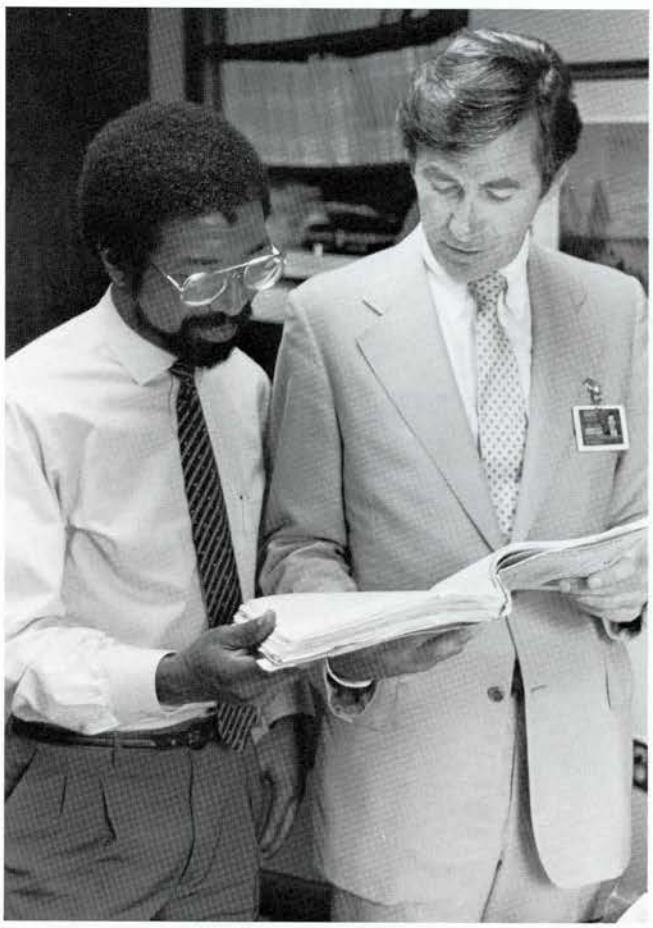
4. A stainless steel plate is placed over the bone graft and attached with screws to healthy spinal bones above and below the damaged area over the bone graft. After the procedure, the patient's spine is so rigid that an exterior brace is not needed, and rehabilitation can begin much earlier than it could under more traditional forms of external bracing.

'Our track record (with this surgical procedure) has really been very, very encouraging'

patients whose cords have been totally severed, because it allows them to get out of bed much sooner than they could otherwise."

The hardest decisions, says Spatz, involve patients who have so many injuries that they face serious risks in undergoing surgery—but who also may contract pneumonia unless they are quickly stablized, allowing their breathing to be restored.

"Only the patient and his family can make that choice," says Spatz. "But our team will make a recommendation, which is based on our experience with similar cases in the past."



Surgeons James Reed, M.D., left, and Desmond Birkett, M.D., discuss a patient's progress.

The team's growing familiarity with the procedure, he adds, has made its members increasingly confident about recommending going ahead with the procedure even when the risks are high.

"With any surgical procedure, the risk of complications goes down as you gain experience," says Spatz. "That's happened with this procedure. Our track record has really been very, very encouraging."

Meanwhile, the team has been modifying the procedure to make it safer and more effective, says Desmond Birkett, M.D., a UH general surgeon and a BUSM associate professor of surgery, who often does the preliminary surgery that gives his fellow surgeons access to the spine. One change is that the spinal column is no longer approached through an incision in the front of the chest or the abdomen, as was done in the early operations.

"When we were coming in from the front, we really had to shift some internal organs around a lot," explains Birkett. "Now, we come in from the side, and that means we don't disturb the organs nearly as much." However, the plate is still attached to the front of the spine.

Aside from reducing risks, that allows patients to get back to more normal ways of life—eating rather than being fed intravenously, for example—sooner than was possible when the spine was approached from the front.

May help restore more functions

Though getting patients quickly into rehabilitation is a key advantage of the new procedure, orthopedic surgeon Yablon believes it also may be helping some patients get back more of the functions they had lost than was possible with the traditional stabilization/decompression procedures.

When the new technique is not used, he explains, most patients can nevertheless expect some improvement in their muscle control—a partial return of the ability to move fingers that had been paralyzed, for example, or of the ability to control bowel and bladder. Yablon, however, says that of the more than 100 patients treated with the new procedure, roughly 30 have shown up to twice the expected improvement.

What does that mean in practical terms?

"For somebody who has lost the ability to breathe and has to be on a ventilator, it might mean getting off the ventilator," says Yablon. "For someone who cannot feed himself, it might mean regaining the ability to feed himself. For the individual who can't walk, it could be regaining the ability to walk." □

Richard P. Anthony, a freelance writer who lives in Boston, is a frequent contributor to Boston University Medical Center publications.

Magnetic Resonance Imaging: A New Form

A magnetic resonance imaging (MRI) unit made with rare-earth elements is helping physicians at University Hospital more accurately to diagnose diseases ranging from multiple sclerosis and cancer to the common cold.

"Ours is the only machine in the world like this," said Allan Green, M.D., Ph.D., chief of the Joint Facility for Magnetic Resonance Imaging. The new facility, a shared service with Boston City Hospital, is directed by Green. The imaging device is made by a small, innovative Boston-area company, Field Effects, Inc.

The new MRI unit represents the first medical use of a rare-earth element, the materials present in very low amounts in the earth's crust. The permanent, novel ring-magnet is fabricated from 4,500 pounds of an alloy made from the rare-earth element samarium, and from cobalt. The alloy is sometimes used in small amounts as the magnetic component in hi-fi speakers.

Improved diagnosis

"We're not using this new technology just because it's different," emphasized Green. "We feel that it offers the advantages of more accurate diagnosis, more accurate evaluation of disease, and more accurate evaluation of the treatment results." With this knowledge, physicians can appropriately manage treatment, which may lead to more effective therapy at an earlier stage.

For the first time, for example, physicians using MRI can accurately diagnose multiple sclerosis, said Green. Formerly, diagnosis of the disease was based on a medical evaluation of the patient's symptoms. Some symptoms could be misleading or associated with other syndromes, so positive diagnosis was difficult. With MRI images, physicians can see the neurofibrilar plaques, little tangles of chemicals that form on the brain and interfere with its function in multiple sclerosis. After positively identifying patients with the disease, physicians also are in a better position to evaluate treatment.

Neurologic applications of MRI have been most striking and useful to patients. The first patient to be treated with the new unit, a 32-year-old man, had complained of slight neurologic symptoms, including weakness of the left arm and shoulder.

MRI revealed a single area of tumor on the right side of the brain. Although the tumor was a melanoma, a malignancy that often metastasizes through the blood stream, MRI showed clearly that the tumor hadn't spread beyond that one spot. Since there was only one metastasis, neurosurgeons were able to say with a great deal of certainty that their treatment could help the patient. The images also assisted neurosurgeons in planning the surgical approach to the removal of the tumor.

Until now, physicians diagnosing such a patient usually have had only two alternatives, according to Green. One is computerized tomography (CT) scanning, which is not as sensitive to certain diseases as MRI. The second is angiography, introducing dye into arteries that supply the head with blood. Oftentimes neither procedure is as accurate as UH's MRI unit; both are more costly and involve more risk than MRI. MRI uses radio waves, not radiation, and has no known associated risk. The MRI unit at UH also significantly lowers medical costs compared to other available technology.

Viewing soft tissue

MRI's ability to characterize soft tissue better than any other imaging technique allows physicians to visualize parts of the body they have never before been able to see. The images have information related to anatomy, chemistry and structure, which is unusual for a medical imaging technique.

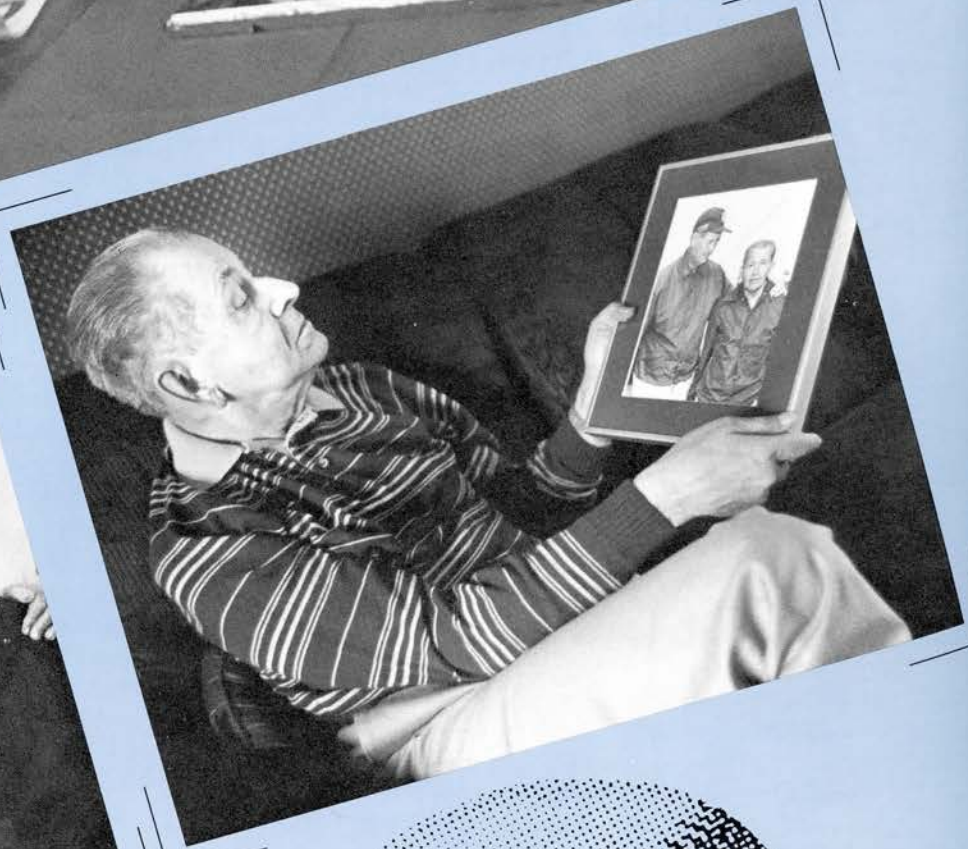
Allan Green, M.D., Ph.D., director of the MRI unit with unit manager Mary Beth Mallett.

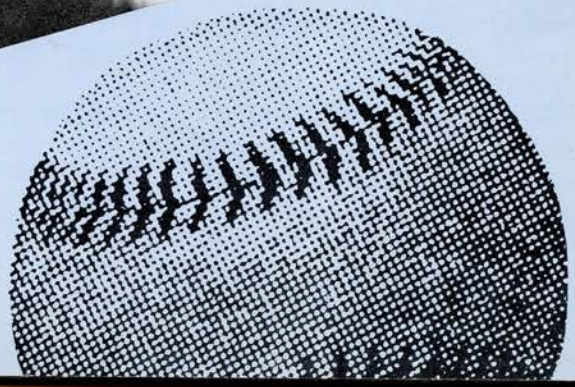
The technique is especially useful for looking at joints. "We can see exquisite details of the joint, not only bony structures that x-rays look at so well, but also the cartilage, the tendons, the ligaments, and the muscle around the joints," said Green.

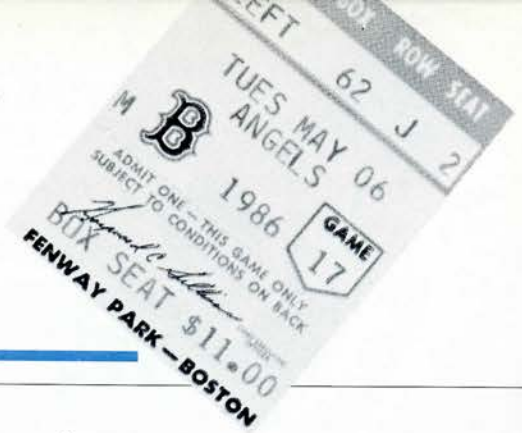
But MRI has its limitations. It usually takes several minutes to produce an MRI image, which means that motion degrades the quality of the image. Even breathing action interferes with image acquisition. Therefore, MRI is less effective than CT-scanning in imaging the gastro-intestinal area, lungs or other parts of the body that move.

Nevertheless, the sensitivity of the new MRI unit is far greater than other available techniques, and UH is playing an important clinical research role in evaluating this approach to MRI. UH is already involved in research on a second-generation unit with Field Effects, Inc. of Acton. The second generation unit, to be installed later this year, will use a different rare-earth material, neodymium-baron-iron, discovered only two years ago. There also will be some electronic improvements. Green expects that the second unit will do things even better, faster, and with better resolution.

Top, party guests help Parkinson's patient Fred Russi, left, and his daughter Midge Stahowiak, center, blow out candles on his 70th birthday cake. Below, Russi views picture taken with Sox batting great Ted Williams during a visit to the Red Sox training camp, where Williams is batting coach. Russi says, 'I'm the little guy.'







BY APRIL L. LINDNER

Tailored Treatment Puts Him Back In The Game

It wasn't Parkinson's disease that was getting Fred Russi down: In fact, he'd had too much medication

WILFRED Russi long ago learned to appreciate the simple pleasures of life, such as spring, green grass, and sitting in the sun, watching the Red Sox try once again for a flag. But simple as these pleasures are, there was a time five years ago when Fred Russi, a 70-year-old resident of Greenville, R.I., would have considered himself lucky to be able to take a walk on a spring day, or to go to a baseball game. A Parkinson's patient who had been undergoing drug therapy for the last six years, Russi found that his symptoms suddenly had become severe.

Six years of drug therapy

In 1981, when Russi came to University Hospital to see Robert G. Feldman, M.D., chief of the Hospital's Department of Neurology and director of the Parkinson's Disease Center, he was having difficulty walking, and was falling frequently. For several months, his legs had felt stiff and heavy. Falling asleep had become more difficult. During the daytime, Russi was apathetic, and often confused. He had trouble getting out of chairs, and needed help cutting his meat.

Along with his increasingly severe immobility, Russi had been experiencing tremors, drooling and rigidity of the facial muscles. These symptoms are typically experienced by the estimated one in 100 people over the age of 60 who are afflicted by this progressive neurological disease.

Parkinson's disease also affects younger people, striking one out of every 1,000 people in the general population. Although there is no known cure, patients since the mid-1960s have been learning to live with and cope with Parkinson's disease with the aid of drug therapy.

Upon his admission to University Hospital, Russi was given a comprehensive evaluation by Feldman and his team. Rigidity was observed in his movements, as was a lack of arm swing. Therapists and nurses evaluated the difficulty he had with mobility. "I had never had a more thorough evaluation," says Russi.

Before the examination, Russi had taken his second daily dose of medication. As a result, rising from his chair and walking were easy. After a few steps, however, his right leg suddenly jerked into the air. His face, hands, shoulders and torso were seized by involuntary motions. His speech became unintelligible. These sudden changes appeared to Feldman to have been brought about not by the disease itself, but by the way that Russi's medications were affecting him.

The evidence convinced Feldman that although Russi had only a mild case of Parkinson's disease, his tolerance for the medication had increased over the years. As a result, his symptoms had worsened, and, in turn, his doctors had increased his dosage yet again. The accumulation of too much medicine, Feldman thought, had increased the severity of his symptoms.

'Simply look at the patient'

Feldman's ability to detect this medication buildup is based on years of experience with many Parkinson's patients. According to Cathi Thomas, R.N., nurse clinician and Parkinson's Program coordinator, "Dr. Feldman watches each patient over a period of two to three hours in his office. During that time he looks for variations in mobility, to see what changes occur after the patient takes his medication."

Feldman, a Boston University School of Medicine professor of neurology, puts it this way: "A physician doesn't need a CT (computerized tomography) scan or magnetic resonance imaging (two sophisticated forms

Robert G. Feldman, M.D., chief of the UH Neurology Department, and Cathi Thomas, R.N., nurse clinician and Parkinson's program coordinator, meet with a Parkinson's disease patient, center, about his drug therapy regimen.

of body imaging) to determine how severe a patient's condition is. A physician with an understanding of the underlying mechanisms of disturbed movement simply has to look at the patient."

Russi's symptoms would seem to indicate that he needed yet another increase in medicine. In truth, just the opposite was the case. At that point, Feldman recommended that Russi undergo a "drug holiday"—a period of supervised withdrawal from medication, followed by a very gradual buildup to the optimal dosage, which is often smaller than the dosage that the patient previously was taking. Russi was admitted to the Harold and Ellen Wald Neurological Unit, the inpatient facility of the Neurological Referral Center at University Hospital.

The Center, which is New England's first regional center for Parkinson's disease, takes a comprehensive approach not only to drug therapy, but also to all aspects of the care of Parkinson's patients. The Center's Parkinson's Disease Resource and Referral Program offers comprehensive evaluation and treatment for Parkinson's patients.

The majority of the Center's Parkinson's patients are outpatients who visit the Neurological Referral Center regularly, although some patients, like Fred Russi, are admitted to the Wald Unit of University Hospital for drug adjustment, or for drug holidays. Care at the Center, both for inpatients and outpatients, is tailor-made to suit the needs of each patient. Parkinson's patients who are treated according to their individual needs can have dramatically better results than those treated in a more traditional way. According to Feldman, there may be patients in nursing homes who could be living active and independent lives if they had been treated according to their individual needs.

According to Thomas, patients who have not been helped by more traditional medical approaches often come from other parts of the country to get help at University Hospital. Such patients often can greatly benefit from the UH approach to drug therapy. Feldman, an early advocate of low-dose therapy, believes in the achievement of a proper balance, in which the patient receives a carefully controlled dosage of just the right amount of medicine.

Traditionally, Parkinson's patients have been treated with doses of Levodopa (also known as L-dopa) that increase as the disease progresses. Since the mid-1970s, many patients have received Sinemet, a combination of L-dopa and Carbidopa that generally causes fewer side effects. Levodopa and Sinemet increase the supply of dopamine, an impulse-transmitting chemical, to the brain. When not enough dopamine is available within the brain, the patient experiences the symptoms of Parkinson's disease.

Too much L-dopa

According to Feldman, however, too much L-dopa can be as bad as not enough, bringing about fluctuating responses or a lack of response, and the development of adverse effects, such as the ones that were observed in Russi—effects which Feldman and his coworkers believe may be averted.

The physician's task, in Feldman's view, is to determine the severity of each case and ascertain the needs of each patient. A person with a mild case of the disorder may experience tremors while at rest, and some difficulty in walking, chewing and rising from a chair. At the other end of the spectrum is the Parkinson's disease patient who may suffer from severe tremors, and be unable to stand up, to walk or even to feed himself without assistance. By adjusting the dosage accordingly, a physician can maintain the patient's proper dopamine level, thereby keeping the symptoms under control and effectively restoring the patient's quality of life.

The team approach is considered the true reason for the Center's success

Once a patient's needs are determined, they can be met through the wide variety of resources available within the Hospital's Neurological Referral Center. In addition to the Parkinson's program, the Center provides treatment and care for patients with such neurological disorders as Huntington's disease, epilepsy, multiple sclerosis, muscular dystrophy and other muscular diseases.

Members of the Center's team work together toward minimizing the disabilities and maximizing the strengths of each Parkinson's disease patient through accurate diagnosis and treatment, thus helping him or her to achieve optimal capacity for functioning. The Center's team includes neurologists, neurology residents and registered nurses. Each patient receives nursing care around the clock. This care is planned by the patient's primary nurse, who also is responsible for an initial assessment of that patient's physiological, psychological and social needs.

Other team members include physical therapists who provide each patient with an individualized program of exercise and mobility training designed to help reduce the symptoms of Parkinson's disease. An occupational therapist assesses each patient's self-care skills (for example, bathing, dressing and eating) and teaches the patient and his family techniques to compensate for the loss of motor function.

A social worker facilitates communication among patients, their families, and staff members involved with that patient's case. The social worker determines whether or not the patient needs individual or family counseling.

The speech therapist evaluates each Parkinson's disease patient's ability to communicate, and educates the patient, his or her family, and team members about Parkinson's disease-related communication problems, and ways to compensate for them.

In addition, a dietician is responsible for tailoring a diet to meet the needs of each patient. The individualized diet is based on a patient's past dietary habits, recent weight changes, current weight for height, protein needs, and the functional ability of the patient's gastrointestinal tract. Staff psychologists, physiatrists, rehabilitation/neurological clinical nurse specialists and neuropsychologists also are available as consultants.

The team approach is the true reason for the Center's success, according to Feldman. This approach includes open communication not only between patients and their families and caregivers, but also among all members of the health-care team. The Parkinson's disease nurse coordinator is involved from the first visit of each new patient, and often becomes involved in a patient's day-to-day care. "The doctors at the Center are really open to input from nurses and therapists," says Thomas.

In addition, nurses are available at the Center at all times to answer patients' questions. This is unique for such a center. According to Thomas, "We find that patients often are afraid to ask their doctor too many questions. They worry that their questions are too trivial, or a waste of the physician's time, yet these are often the most important questions because they relate to the patient's day-to-day life."

Patient education is another major focus of the Neurological Referral Center team. Feldman is a strong believer that the more a patient knows about his or her own care, the better that patient will feel. Through patient education, Feldman and his coworkers seek to involve patients in their own care by helping them to understand their illness. The effects of this involvement are subtle, but far-reaching in the long-term management of Parkinson's disease.

'These patients understand'

"Patients involved in their own care don't feel like things are being done to them," says Margaret Lannon, R.N., M.S., who worked as the Center's care co-

"Patients who are well-educated about drug therapy learn to accept a lower functional ability because they understand the long-term implications of over-medication," according to Margaret Lannon, R.N., M.S.

When he decided to feed himself, the nurses gathered around and clapped

ordinator for five years, and continues to see patients at the Center in her work as nurse researcher and instructor in Rehabilitation Nursing at Boston University School of Nursing. According to Lannon, who along with Feldman developed the Center's approach to treating Parkinson's patients, "Patients who are well-educated about drug therapy learn to accept a lower functional ability because they understand the long-term implications of over-medication."

It's important for patients to remember that Parkinson's disease is a chronic, progressive condition and as such, can't be cured. However, patients who undergo individualized therapy may have a better quality of life for a longer time. Proper care can buy time for the Parkinson's patient. In fact, with the proper drug therapy, the life expectancy of a Parkinson's patients is near normal.

Whenever possible, Feldman prefers to give patients a say in their treatment, sometimes including the freedom for the patient to adjust his dosage according to his fluctuating needs, within a prescribed range of medication. The end result of this personalized approach can be as dramatic as the improvement that took place in the course of Russi's drug holiday.

Today, Fred Russi can joke about the experience ("I don't call it a holiday," he says). While a drug holiday is often a difficult time, Russi says that the nurses in the Harold and Ellen Wald Neurological Unit made his stay in the Hospital as comfortable as possible. "They were terrific to him," according to Russi's daughter, Midge Stahowiak of Greenville, R.I., who often visited her father at the Hospital. "After a few days, they treated him like just another one of the guys." By his own accounts, Russi told the nurses, "If you keep treating me so good, you won't get rid of me."

After 10 days, no medication

This camaraderie was built up over Russi's three-month stay in the Unit. A drug holiday is a gradual process; medication is not taken away "cold turkey" from the patients. In Russi's case, his first 10 days at UH were spent undergoing extensive testing; meanwhile, his dosage was gradually reduced. On the tenth day, all medication was withheld. Although he felt no pain, he was completely unable to move. According to Russi, "It was embarrassing at times. I was totally immobile."

With the support of the F-3 nurses, however, Russi was able to perform a number of everyday activities. During his 14-day drug-free period, the nurses helped to lift him in and out of bed and held the telephone to his ear so that he could call home. When he decided to feed himself for the first time since entering the Hospital, the nurses gathered around and clapped. "UH nurses really know what Parkinson's patients have gone through, because they've worked with so many," says Stahowiak.

After 14 medication-free days, Russi was put back on medication and it was was gradually increased to what Feldman felt was the proper dosage. His movement increased to the point where he was able to leave the Hospital in time for Christmas. Four years later, his dosage has been increased by only a small margin, and he lives a normal, active life at the Rhode Island home of his daughter and son-in-law. Russi calls Feldman "an astute, dedicated doctor," and says, "if they find a cure for Parkinson's disease, he'll have a hand in it."

If Russi is fond of UH's neurology team, it can be said that his feelings are reciprocated. Because Russi is such a good example of the therapeutic success that can be brought about by careful drug therapy, when Feldman teaches first-year medical students about neurological diseases, he occasionally invites Russi to speak in front of the class.

When Russi comes in for his regular six-month appointment, Feldman sends him to the Neurology unit to visit the nurses, and to serve as an inspiration for Parkinson's patients in the unit. In addition, at Feldman's encouragement, Russi is writing a pamphlet detailing his drug-holiday experience for the benefit of other Parkinson's patients.

Follows Sox to Florida camp

These days, Russi rides his bicycle regularly, goes shopping with his daughter, and often goes for walks around his neighborhood. He drives to a local hospital every two weeks to do exercises with a Parkinson's support group. In the springtime, he travels to Florida to watch the Red Sox through spring training.

This year, Russi made his yearly pilgrimage to the Red Sox training camp in Florida. Although he's watched the last 15 spring training sessions, Russi says "Next year I can take my uniform—maybe I'll make the team." □

University Hospital

at Boston University Medical Center

Quality Patient Care: *More important than ever*

THE dominant concern of hospitals today is to assure that quality patient care continues in the face of an increasingly difficult financial climate for hospitals. Governmental cutbacks and changes in health insurance are making hospital administrators take a harder look at the ways in which their institutions operate.

In our view, the more society focuses on health-cost containment, the more we

The more society focuses on costs, the more we should guard the quality of patient care

should guard the quality of care. At University Hospital, there is a consensus among the staff and management that quality patient care has never been as important as it is today, for never before has there been such stress on the health-care dollar. Our patients have the same high level of illness as before—indeed, the level of illness seems to be higher—but regulatory constraints limit the resources to deal with that fact.

Last October, Massachusetts adopted the Prospective Payment System, the federal government's new reimbursement system for Medicare. Under the new system, hospitals are paid by Medicare at a predetermined rate according to a a classification system known as the diagnosis related groups (DRGs) system. Upon discharge from the hospital, each Medicare patient is determined to fall into one of 470 diagnostic groups, depending on what kind of illness he or she had. Each diagnostic group has been assigned a fixed fee; the hospital is reimbursed that amount regardless of the patient's actual length of stay or use of hospital resources with minimal relief for extraordinary cases. It thus behooves hospitals to discharge patients as expeditiously as possible, but with full regard to quality care.

Nowhere in the health-care field does the new system make more of an impact than at academic medical centers, such as University Hospital, where patients are among a region's most acutely ill and whose staffs must be the most highly trained. This means patients at UH and other teaching institutions tend normally to stay longer and require more resources than patients elsewhere.

Even as it becomes more and more expensive for hospitals to treat acutely ill patients, the severity of illness of University Hospital's patients is increasing. Our records show that the acuity level of the patients treated at UH is at an all-time high. The number of beds we devote to care of those who are called "high-acuity" patients recently rose from 37 to 58 in 18 months—a 57-percent increase.

Several factors may be playing a role in the increasing demand for high-acuity care. Among these factors are an increase in the number of ventilator-dependent patients, and initiation of the Boston Med Flight emergency medical helicopter service. In addition, over the past year, there has been a general increase in high-acuity referrals from community hospitals, including an increase in neurosurgical patients, most of whom initially require high-acuity services.

These changes in the health-care fiscal climate present a major challenge to health-care providers, but University Hospital is determined to continue delivering high-quality care while working within the boundaries of the new regulations. In the face of a rapidly changing environment, UH last year maintained its economic strength and continued its efforts to meet the challenge of the future.

Responding to the challenge

The changing patterns of health-care are demanding new skills and creativity throughout the Hospital. One illustration of this creativity can be seen in the Nursing Department, whose staff has adapted the traditional nursing classification model to match the level of nursing care to the patients' needs. Data from this system is proving what clinical experts have predicted: UH nurses are seeing more patients in need of higher levels of care. This sophisticated tool allows nursing managers to plan nursing schedules more efficiently, and to effectively respond to immediate patient needs.

In our effort to contain costs, UH staff members are designing safe alternatives to prolonged and costly inpatient stays. One example is a new program that benefits patients undergoing such back and neck procedures as lumbar laminectomy. University Hospital's Early Discharge Program for lumbar laminectomy patients is based on collaboration between the nursing staff and home health-care agencies, such as the Visiting Nurse Association. Thus far, the program has in many cases lowered a laminectomy patient's stay from the DRG-average of 10.2 days to five days.

Enhancing effectiveness

Another of the many ways in which we are attempting to improve efficiency and effectiveness of patient care in the new regulatory climate is to improve the Hospital's physical environment. The Partial Replacement Project (PRP)—the Hospital's future core clinical building, currently under construction—was designed to provide greater cost effectiveness and greater efficiency in

patient care than the facilities that it will replace.

Currently, the face of the PRP structure changes daily as the precast concrete walls are hoisted into place. Construction is running on schedule, which means that the building should be occupied by the end of 1987.

The PRP will provide a central focal point for the patient. The Partial Replacement Facility entry, highlighted by a bright central-lobby atrium, will serve as the Hospital's main reception area, the place in which patients and their visitors are welcomed and made to feel comfortable. Here the patient will enter and be welcomed by the convenient Admitting Department. Visitors may shop at a new Gift Shop and gain easy access to the Hospital's other buildings.

The PRP will contain 233 of the Hospital's 379 beds. Among the additional clinical services in the PRP will be a 16-bed surgical intensive care unit, operating and recovery rooms, diagnostic radiology, the Pharmacy and a consolidated materials-management area.

Technology brings results

The Department of Laboratory Medicine last August implemented a new computerized information system that is designed to make laboratory test results immediately available. The system enables UH physicians to make quicker diagnoses and to initiate earlier treatment, potentially reducing the amount of time that a patient spends in the Hospital.

This new system reduces the potential for human error and enhances the Department's efficiency by providing prompt answers to inquiries about lab results via terminals in various clinical areas throughout the Hospital. In addition, the system minimizes the paperwork involved for patient care units requesting tests.

Building on our strengths

Another way in which the Hospital is dealing with changes in the health-care system is by building on UH's clinical strengths. A brief review of the patient-care programs that have been strengthened or established in the past year will confirm that University Hospital has found creative solutions to improving patient care while still proving itself responsive to society's mandate to control health-care costs.

The Senior Care Program improves access to quality care for the elderly

Commitment to critical care

The delivery of care to critically ill patients traditionally has been one of University Hospital's strengths. Last year, the Hospital's role in the New England region's critical-care network became even stronger, with the inauguration of Boston Med Flight, a specially-equipped helicopter service designed to transport critically ill and injured patients between medical facilities, as well as from the scene of an accident that may be difficult to reach by conventional ground transport.

University Hospital played the lead role in proposing and organizing Boston Med Flight, which is operated by a consortium of Boston's trauma centers. By speeding critically injured and ill patients to the city's trauma centers, Med Flight makes it possible for the patients to receive definitive care within the crucial first "golden hour" after their injury. Since Med Flight began operations last summer, the number of high-acuity patients brought to UH has been greater than was originally anticipated; UH consistently ranks near the top of the list of Boston trauma facilities that are Med Flight destinations.

A tradition of service for seniors

University Hospital traditionally has been renowned for the services we offer for senior citizens, principally through our Home Medical Service, which has provided primary medical care for the homebound of Boston for 111 years, and through our Geriatric Section, part of the Evans Memorial Department of Medicine. To complement these services, the Hospital recently added a new Senior Care Program that improves the accessibility of quality, affordable health care to the elderly.

University Hospital developed the Senior Care Program in cooperation with the Massachusetts Senior Action Council (MSAC), a group of senior citizens that advocates the needs of low-income elderly citizens. The program has provided for lowered fees for many preventive services, simplification of UH's billing procedure, availability of a patient representative in the Hospital's Administration and Billing Department, and expansion of the Hospital's Volunteer Translation Services.

Growth in volunteerism

Volunteerism at University Hospital has grown this year in more ways than one.

The Brain Injury Center is unique in the northeastern United States

The Hospital's Volunteer Services Program, initiated last September, provides opportunities for friends of the Hospital who wish to donate their time and talents. The program, which focuses on teaching new skills and providing new experiences for volunteers, has attracted approximately 85 volunteers who, between January and April, volunteered 3,881 hours to Hospital work. A special premedical volunteer program provides services to seven clinical departments. In addition, a group of six volunteers recently began working in the Hospital's New England Regional Spinal Cord Injury Center to set up movies and act as companions to spinal cord-injured patients.

New approach to incontinence

Another initiative in patient care at University Hospital came about with the recent establishment of the University Continence Center. The Continence Center this spring began offering the latest medical techniques and technology to diagnose and treat urinary incontinence, a condition that affects an estimated 12 million people in the United States.

Patients who may benefit from the Continence Center's services include the elderly, who as a group are most likely to suffer from incontinence; the middle aged, who may experience stress incontinence as a result of childbirth or menopause; and people with neurological disorders.

New spinal-cord injury initiative

University Hospital's New England Regional Spinal Cord Injury Center, a federally designated model spinal-cord injury system, has been awarded a $1.75-million renewal grant for the next five years. The Center was one of 13 centers to receive this award in 1985 from the Office of Special Education and Rehabilitative Services of the National Institute of Handicapped Research.

The funding is being used to study and implement a system of care for the spinal-cord injured in which care begins at the site of the injury, continues through emergency and acute medical care, and encompasses rehabilitation and vocational counseling.

Leading the battle against heart disease

For more than four decades, University Hospital, as the principal tertiary teaching hospital of Boston University School of Medicine, has been a leader in the fight against heart disease. For example, members of the Hospital's Cardiology Section currently are doing pioneering work on a laser angioplasty procedure to eliminate atherosclerotic buildups in the arteries. The Hospital's chief of cardiology has served for the past year and a half as president of the American Heart Association. A UH cardiologist was selected by the federal government to perform the first 10 laser angioplasty procedures in the United States.

In addition, the Cardiovascular Institute of Boston University School of Medicine in December received a five-year, $9.3-million grant to establish the country's first National Research and Demonstration Center for Hypertension.

Convenient outpatient care

To keep in touch with health-care changes, the Hospital is taking a new approach to outpatient care. In appropriate cases, outpatient care can be more efficient and less costly than inpatient care. Innovative ways in which the Hospital now provides outpatient services to our patients include our new affiliation with Fitcorp Healthcare Center, a modern fitness complex in downtown Boston that houses the Hospital's unique Cardiac Rehabilitation Program. The Program provides a regular, supervised program of exercise for the treatment of persons with heart disease.

Lifelong continuity of care

The Hospital's system of care for brain-injured patients will soon extend far beyond a patient's stay in UH. In February, a clinical affiliation was announced between the Hospital's Northeast Regional Center for Brain Injury and the Newton facility of Mediplex Group, Inc. This affiliation links existing departments within the Hospital and dedicates them to providing a program of coordinated care for traumatically brain-injured patients. University Hospital head injury experts will serve as the entire lead clinical team in the management and development at Mediplex of a 40-bed traumatic brain injury unit and an outpatient-services program for the brain-injured. The medical director at Mediplex will be a UH physician.

The Brain Injury Center is unique in the northeastern United States and represents UH's major commitment to comprehensive care of the head-injured. Our affiliation with Mediplex will allow the clinical staff at UH to treat and manage our severely

head-injured patients after they have been discharged from the Hospital. In this way, University Hospital's brain-injury experts can maintain lifelong continuity of care with the patients.

In addition, members of the Center's staff are now planning an unusual residential neurobehavioral program for patients suffering from neurobehavioral deficits resulting from traumatic head injury. Last summer, UH was awarded a $140,000 grant for the design and implementation of an inpatient neurobehavioral unit housed at the Lemuel Shattuck Hospital, a state facility in Boston's Jamaica Plain section. The unit is a pilot project of the State Head Injury Program (SHIP). This is the first time in Massachusetts that a clinical affiliation between the government and a private hospital has been developed to treat the needs of the head-injured.

Working within our community

As patient-care dollars become increasingly limited and capital becomes even more necessary to support the Hospital's mission, UH needs to seek additional revenue. University Hospital has formed University Associates, a joint venture with a well-known Boston real-estate development team. University Associates will simultaneously provide a long-term potential source of revenue for the Hospital, while helping our local environment by creating jobs for area residents and bringing in tax dollars to the city and Commonwealth. This joint venture envisions the development of a parcel of land on Albany Street, across from the Hospital and Boston University Medical Center, as a mixed-use commercial, hotel, and garage complex.

Working to improve the health care climate

Rather than merely adapting to the changing times, University Hospital is taking a proactive role regarding changes in health-care regulations. As an example, University Hospital's senior management currently is working with members of Congress on the issue of the intent to blend operating and capital costs into nationally-averaged DRG reimbursement rates. We are convinced that more attention needs to be paid to the lasting bond obligation of our region's hospitals as we convert to such a system.

In addition, by playing an integral part in the Council of Boston Teaching Hospitals, UH's senior management is working to ensure that the city's teaching hospitals deal with the increasingly challenging health-care environment.

Thus, through a combination of creative approaches—increasing our effectiveness and efficiency, adding needed new services, building on existing strengths, and taking a proactive role toward regulatory changes—University Hospital works daily to maintain our position as a leading Boston teaching hospital. As we make these moves, bending every effort to better deal with the health-cost environment, we do so with the full backing of a hospital family that agrees on a single credo: quality care has never been more important than it is today.

Chairman of the Board John F. Cogan Jr., left, and Hospital President J. Scott Abercrombie Jr., M.D., on site of new PRP building

John F. Cogan Jr.
Chairman, Board of Trustees

J. Scott Abercrombie Jr., M.D.
President

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Financial Summary of 1985

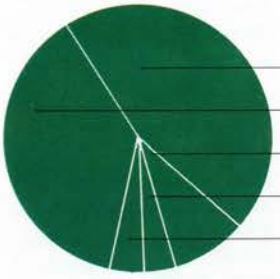
University Hospital maintained its financial strength in fiscal 1985 despite pronounced pressures to curtail health-care expenditures. The Hospital family has met this ever-increasing challenge in a spirit of commitment and cooperation matched by few. We are proud to have been able to respond so favorably under such adverse economic conditions, and we look forward to our continued level of excellence in the face of mounting federal and state economic constraints.

University Hospital, Inc. Summary Statement of Revenues and Expenses for Years Ending September 28, 1985, and September 29, 1984

	Years Ending 9/28/85	9/29/84
Patient Service Revenue	$109,020,000	$ 97,237,000
Other Operating Revenue	4,223,000	3,683,000
Total Patient Service Revenue	**$113,243,000**	**$100,920,000**
Less: Deductions from Revenue Due to Contractual Agreements, Bad Debts and Free Care	27,830,000	17,957,000
Net Patient Service Revenue	85,413,000	82,963,000
Less: Operating Expenses	83,440,000	80,488,000
Patient Care Gain Available for Capital Improvements and New Technology	**$ 1,973,000**	**$ 2,475,000**

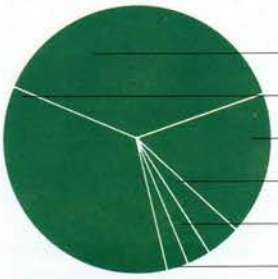
University Hospital, Inc. Sources and Uses of Revenue for Year Ending September 28, 1985

Sources of Revenue FY 1985



Inpatient Ancillary	$ 51,633,000	45.6%
Inpatient Room and Board	43,901,000	38.8
Outpatient Ancillary	9,713,000	8.6
Outpatient Clinics	3,773,000	3.3
Other Operating	4,223,000	3.7
	$113,243,000	100.0%

Uses of Revenues FY 1985



Salaries and Wages	$ 42,062,000	37.1%
Supplies and Other	36,714,000	32.4
Allowances Granted	23,466,000	20.7
Non-Cash Expenses	4,664,000	4.1
Bad Debt and Free Care	4,364,000	3.9
Patient Care Gain	1,973,000	1.8
	$113,243,000	100.0%

Selected Patient Care Statistics for 1985

Number of Beds	379
Number of Admissions	9,575
Number of Patients Days	114,386
Average Length of Stay (Days)	12.0
Percent Occupancy	82.9
Emergency Room Visits	15,174
Outpatient Surgery	1,437
Other Outpatient Visits	60,223

Hospital President J. Scott Abercrombie Jr., M.D., recently was named an honorary member of the Massachusetts Senior Action Council.

The UH Senior Care Program: A 9-pt. plan to improve seniors' health-care access

University Hospital's recently launched Senior Care Program, the first of its kind in Massachusetts, is a nine-point agenda for improving senior citizens' access to quality health services.

The cooperative effort between the Hospital and the Massachusetts Senior Action Council (MSAC), a coalition of senior citizens that focuses on the needs of low-income seniors, began in May 1985, when J. Scott Abercrombie Jr., M.D., president of University Hospital, and several other Hospital officials met with approximately 400 elder citizens at Gardner Auditorium in the Massachusetts State House.

"At first we were kind of skeptical, and so were they," recalled Mary Williams of Dorchester, chairperson of the MSAC committee that met with University Hospital officials to develop the program. For a long time, she had listened to problems of senior citizens involved in the complicated and changing health-care system.

'They said they'd try, and they did'

As discussions progressed over the next several months, however, she said, "we enjoyed working with the Hospital and everyone was very friendly. We had good rapport. They said they were going to try to understand our needs—and they did."

"With all of the changing regulations that affect how hospitals and physicians are reimbursed for treating the medical needs of seniors," Abercrombie said, "we think it is important to simplify how we communicate with our elder patients." He praised MSAC for "transforming a philosophy into a reality."

The pace-setting University Hospital Senior Care Program includes the following features:

■The fees of many preventive outpatient services often used by senior citizens have been reduced up to 50 percent. These services include general physical examinations and podiatry services provided by the Evans Medical Group, eye examinations and low-vision services provided by the Hospital's Gundersen Eye Center, and hearing tests provided by the Daniels Hearing Center.

■Physicians who staff the Hospital's outpatient services participate in the Medicaid program and accept Medicare assignment. In addition, the Hospital is encouraging all of its attending physicians to also participate fully in the Medicaid program and to accept Medicare assignment.

■In keeping with its past policy, the Hospital will continue to accept uninsured patients requiring emergency treatment.

■The Hospital's billing practices are sensitive to the needs of elders. For example, Medicare co-payments and deductibles and pre-admission deposits are reduced on a sliding scale according to federal income guidelines adopted by the Hospital.

■A patient advocate in the financial services office is available to help seniors with billing problems.

■The Financial Services office will make additional effort to contact an elderly patient prior to turning a bill over to a collection agency.

■The Hospital is working with an advisory group of MSAC members to simplify Hospital billing statements, particularly those for outpatient services.

■Language will not be a barrier to receiving quality health care at UH. All common admitting forms have been translated into a variety of languages. In addition, members of the Hospital's Volunteer Interpretation Program, staffed principally by employee volunteers, are available to interpret for patients who do not speak English. (The recent campaign to recruit employees tripled the number of UH employee translators in the Hospital's Volunteer Interpretation Program, which includes translators of Korean, Pushtu, an Indian dialect, and Yoruba, an African language.)

■Seniors with questions about their medical care or Hospital services may speak directly to a member of the Hospital's administration who will serve as a patient advocate.

'Guarantees one of our dreams'

The new program is working "very, very well," according to Williams. Another member of the six-member MSAC negotiating team, Dorothy Hunter, said the program "guarantees us one of our dreams. University Hospital has taken great steps to extend quality health care to seniors. We are determined to ensure that other hospitals catch on to this dream."

"We're not only doing this only for ourselves," Williams added, "we're doing it for the young people coming up behind us. Otherwise, things may be worse for them when they get to be our age."

The first Kramer Lecture in Gastroenterology, named in honor of Philip Kramer, M.D., center, formerly the chief of gastroenterology at UH and currently a member of the gastroenterology staff, was held in April at the Medical Center. Robert M. Donaldson, M.D., left, acting chairman of internal medicine at Yale University School of Medicine and a former chief of gastroenterology at UH, was the featured speaker. Also shown is J. Thomas LaMont, M.D., current chief of the Section of Gastroenterology, sponsor of the lectureship. Kramer has been affiliated with BUMC for 38 years and headed the Section from 1976 to 1980. The lectureship was established with funds contributed by patients, former trainees and fellows to educate students in clinical gastroenterology.

Gary J. Balady, M.D., medical director of UH's Cardiac Rehabilitation Program, monitors the blood pressure of patient Julius Kasonitz.

Cardiac rehabilitation: UH's unique approach puts a medical team in a health-club setting

By Shirley B. Moskow

Marathon runners in the life-sized mural seem to be keeping pace with the soft beat of disco music that seeps through the gray and oak waiting room. Men and women—some in jogging suits and sneakers, others dressed for success with sports bags in tow—cross the grass-green, wall-to-wall carpet, past lush plants and comfortable contemporary furniture. Among them are patients in University Hospital's Cardiac Rehabilitation Program, the 21,000 square-foot complex that is housed not at UH, but in a downtown health club.

"The unique part of this program," said Gary J. Balady, M.D., medical director of the new unit, which is located in the heart of Boston's business district, "is that it combines the expertise of the University Hospital cardiology staff with the facilities of Fitcorp Healthcare Center to provide a comprehensive program in cardiac rehabilitation." The innovative program was suggested by Thomas J. Ryan, M.D., chief of cardiology at UH and the current president of the American Heart Association.

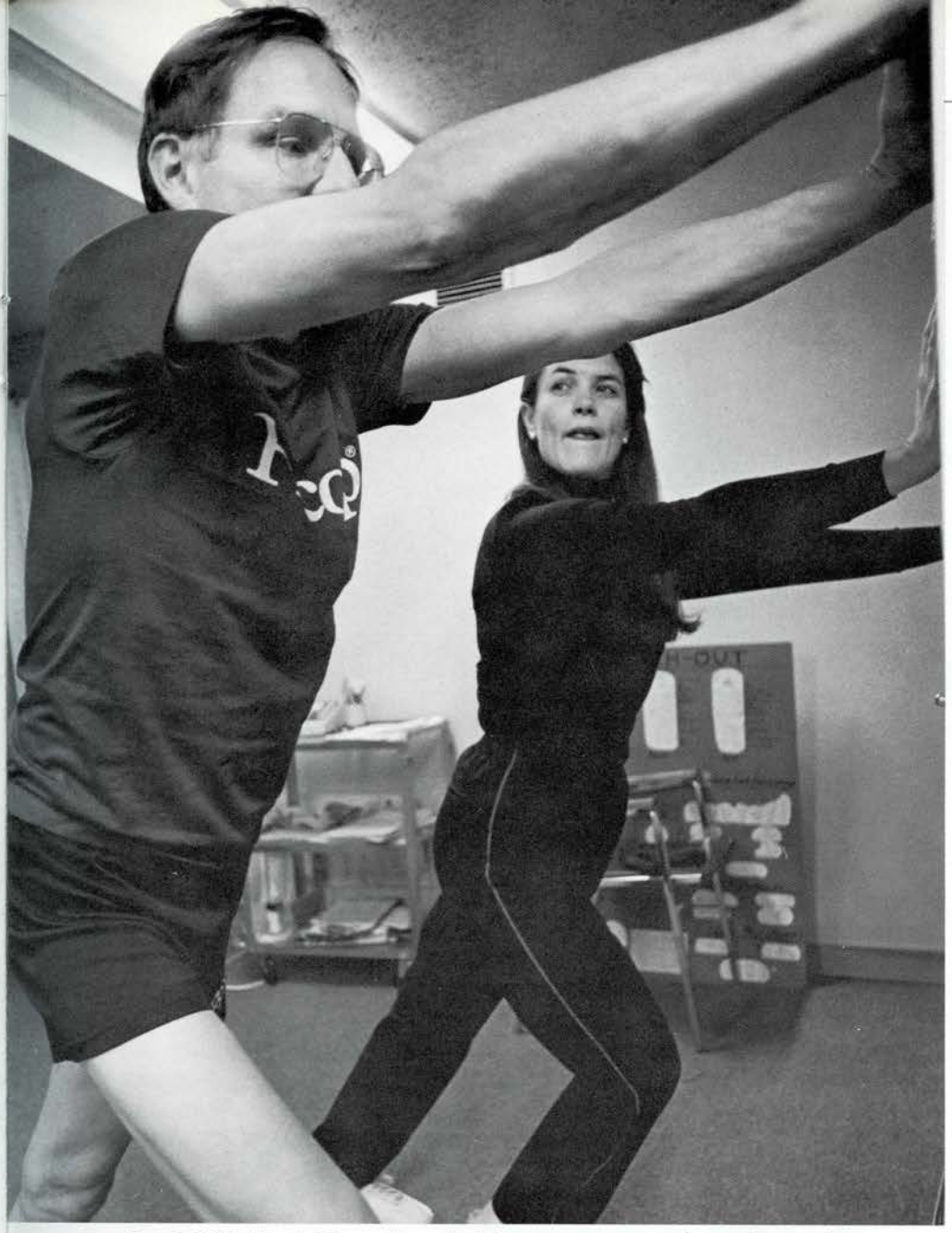
One crucial difference

Businessman Webster Collins of Milton is enthusiastic about the combined medical and exercise center. Following a heart attack last fall, the 51-year-old real estate developer investigated a long list of programs recommended by his physical therapist. He chose UH's Cardiac Rehabilitation Program. "Because this program has a cardiologist on site at all times, the decision was easy," he said, pedaling a stationary bicycle. None of the other programs he checked out offered that feature, which he thought was an important consideration to someone concerned about his heart condition.

In addition to a cardiologist, the cardiac rehabilitation team includes a cardiac nurse specialist, exercise physiologists, a nutritionist and a psychologist. The multidisciplinary approach provides closely supervised professional guidance, which is enhanced by the health-club environment.

While Collins goes through his regimen, for example, all around him energetic men and women are doing warm-up exercises, jogging, or working out with rowing and cross-country machines. Many of them are Fitcorp health club members, who use their lunch breaks to stay fit.

"We try to do health promotion," said Mark F. Geer, Ed.D., the psychologist who leads the Cardiac Rehabilitation Program's smoking cessation, weight control and stress-management lectures. "Having health club members par-



Carol O'Malley, R.N., cardiac rehabilitation nurse specialist in the Cardiac Rehabilitation Program, leads Webster Collins through his exercise regimen at the Fitcorp facility.

ticipate along with heart patients is important. It promotes a feeling of wellness. After a heart attack, most people feel out of control, scared. Our program gives them a sense of control."

Balady, an assistant professor of medicine at Boston University School of Medicine, encourages patients to take an active part in their treatment. "Traditionally, heart-attack victims, angina sufferers and others with cardiac ills have been told that recovery is largely a waiting process, and there is really not much a patient can do to speed it up," he said. "Recent scientific evidence, however, suggests that exercise can significantly shorten the recovery period for many heart patients.

"Regular aerobic exercise can reduce blood pressure. It also can increase the level of high-density lipoprotein (HDL) cholesterol—that's the so-called 'good' cholesterol, which reduces the risk of artherosclerotic buildups in the arteries. While the evidence is mixed as to whether exercise strengthens the hearts of patients who have had heart attacks, there are strong indications that it boosts the efficiency of the cardiovascular system as a whole, enabling patients to better deal with the stresses imposed by many activities of daily life."

An exercise prescription

To enter the Program, patients must be referred or have the approval of their personal physician. Each new patient receives an individualized exercise prescription, based on a stress test. Initially, patients participate in three one-hour lunch-time sessions a week. During the 40 minutes of exercise, heart rate and blood pressure are monitored every five minutes and patients designated at high risk are under constant oscilloscopic monitoring. After a cool-down period, everyone attends a brief teaching or counseling session.

"The important goal in cardiac rehabilitation," said Balady, "is to get the patients to change their lifestyles. We educate them about their disease, exercise, and risk factors, but it's up to them to practice what they learn."

Collins has learned the lesson. "I'm a walking statistician about heart attacks and," he said, "in odd moments, I even compose such reminders for myself as 'health over wealth above all else.'" Recently, when he packed for a vacation in Arizona, his sneakers were the first item to go into the suitcase. Every day that it didn't rain, he jogged. About to be discharged from the Cardiac Rehabilitation Program, Collins joined a health club, saying, "I'm completely dedicated to my new lifestyle."

Shirley B. Moskow is a freelance writer who lives in Lexington, Mass.

Jennifer George-Stewart, R.N., left, staff nurse in the medical oncology unit, and Nellie Knight, sterilization, processing and distribution manager in the Materials Management Department, are helping to provide role models for Boston-area students.

Two from UH serve minority teens as 'Black Achievers'

"Minority teens need to see someone just like them, someone who has gone through life and hasn't failed," says Jennifer George-Stewart, R.N., one of the first two University Hospital employees nominated to Boston's Black Achievers program.

George-Stewart, a staff nurse in the Medical Oncology Unit, and Nellie Knight, sterilization, processing and distribution manager in the Materials Management Department, are contributing 40 hours this year to community work, speaking at area schools and serving as role models for students. University Hospital will pay them for the time they volunteer.

George-Stewart and Knight were among 97 Black Achievers honored at the annual awards banquet at Boston's Park Plaza Hotel on Jan. 17, the birthday of Martin Luther King Jr. The annual event recognizes black men and women whose careers exemplify the highest professional standards. George-Stewart and Knight were chosen from among employees at University Hospital nominated by their supervisors.

The Hospital's participation in the program was suggested by Administrative Assistant Janet Jones after she met Noel Johnson, director of the Greater Boston YMCA-sponsored program. "Because recognition is good for employee morale and because we want to contribute to the community in which we are located, this is an appropriate program for Hospital involvement," she said.

'You show them how...'

Role models are important to young people. "By talking to students about your life, you show them how to make their own dreams come true," said Nellie Knight. As a child, she had yearned to be a doctor, but because she grew up in a large, poor family, she thought it was necessary to put aside her goal of working in a hospital.

When she learned many careers in medicine don't require more than a high school diploma, however, she found a job in a hospital as a clerical worker. That was 18 years ago. She's been at University Hospital for six years. "I've reached this level not by planning it, but by being dedicated and conscientious about what I'm doing," she told students at a Newton junior high school "The first thing is to finish high school. If you want to work in a hospital, remember, you don't have to be a nurse or a doctor. There are many other jobs. Don't accept 'no' for an answer. Be persistent. And if you want to continue your education, there are grants and scholarship aid available."

'You show (the students) how to make their own dreams come true'

One of George-Stewart's first assignments was to talk to 15 and 16-year-olds at the Timilty School in Boston's Roxbury neighborhood. There were 20 to 25 students in a class and, she recalls, "Everybody was asking questions at once." In addition to career counseling, she answered their questions about acquired immune difficiency syndrome (AIDS), homosexuality, cancer and other medical subjects. That led to a discussion of different programs and prerequisits for jobs in medicine."

The selection committee included Judi Hilliard, UH Personnel director; Gerald Scott, UH Personnel representative and Affirmative Action officer; and Alice Owen, administrative coordinator for the surgical training program at Boston University School of Medicine.

Having introduced the program at University Hospital, Jones said, "We hope next year to nominate more employees."

Boston is one of 16 communities in the United States participating in the Black Achievers progam, which is supported by corporations, institutions and private contributions.

UH brings expertise to bear on a problem that devastates some: urinary incontinence

The University Continence Center opened its doors at UH this spring with the latest medical and surgical techniques and technology to relieve the suffering of people whose lives are devastated by an embarrassing medical problem no one talks about—incontinence.

David R. Staskin, M.D., and Robert J. Krane, M.D., chief of urology at UH, are co-directors of the Center. Staskin emphasizes that incontinence can be treated successfully. People continue to suffer needlessly, he said, because they don't know about recent medical and surgical advances. University Hospital, with all of the resources of a major medical center, uses an interdisciplinary approach to diagnose and treat incontinence, a condition that humiliates and isolates sufferers.

Acquired immune difficiency syndrome (AIDS) and cancer are openly discussed in today's society, but urinary incontinence has yet to escape the taboo status. "Unfortunately, incontinence, the involuntary passing of urine, is accepted as a disease of old age," said Staskin, an assistant associate professor of urology at Boston University School of Medicine. He is quick to point out, however, that incontinence is not a disease, but a symptom of an underlying problem, that it also affects young people, and that it can be treated.

Although an estimated 12 million people in the United States suffer from some form of incontinence, the problem is highly stigmatized so the numbers may be much greater. "It is an incredibly disabling symptom," he said, "a social cancer, as bad as any other disease."

When a productive person in the prime of life suffers incontinence, he or she may not be able to hold a job or socialize. One man didn't go to church for four years because he was embarrassed by damp trousers. A woman purchased all of her clothes by mail order, since she invariably left puddles in the fitting room and was fearful of wetting the clothes she tried on. Another woman who dribbled a trail of urine refused to go to the supermarket.

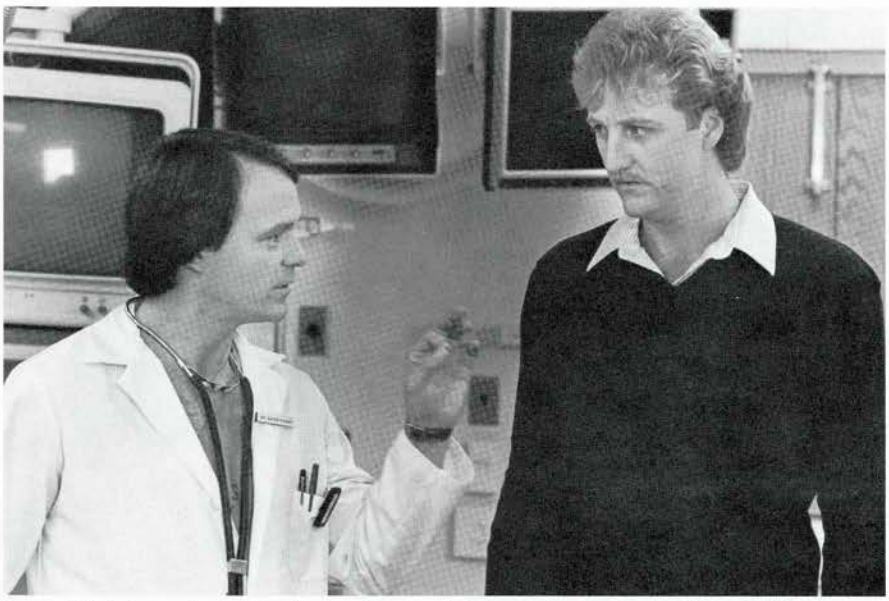
"People like these avoid their friends. They won't even go out to dinner," says Staskin. "Because they may be wet, they often smell and that's not socially acceptable." Also, they may stay close to home not only because they wet, but because of the frequency and urgency of their condition, or because they suffer related skin problems.

"It is important to stress that new medical techniques help sufferers," says Staskin "Even people who have had unsuccessful surgery in the past are now being treated successfully." One patient had had six surgical procedures before she came to the University Continence Center. "She is now dry," says Staskin. "Another woman was followed by physicians for seven years and told that nothing could be done for her. She, too, is now dry."

Patients generally are divided into three groups—the elderly, the middle-aged, and people who have neurological disorders.

Stress incontinence

The incidence of incontinence in adults is directly proportional to age, and 10 to 15 percent of men and women over 65 are affected. Approximately 50 percent of the elderly in nursing homes are incontinent. Indeed, incontinence is the number-one reason people go into nursing homes. Conversely, it is also the condition that makes it most difficult to place them in nursing homes. "It seems a shame," said Staskin, "considering that sometimes treatment is very simple. And, patients with problems that cannot be cured often can be managed."



Larry Bird, key player on the 16-time world-champion Boston Celtics basketball team, visited UH early this year to appear in a commercial for the American Heart Association with David Faxon, M.D., director of the cardiac catheterization laboratory and assistant director of the Section on Cardiology. Cardiology Chief Thomas J. Ryan, M.D., currently is serving as president of the AHA. The commercial was aired during the National Basketball Association's regular season.

Men and women between the ages of 45 and 65 comprise the second group. "Either because of conditions associated with childbirth or menopause, middle-aged women with what is called stress incontinence drip urine when they cough, sneeze or strain," explained Staskin. "Many wear sanitary napikins for protection, an expensive accommodation, when they have a 95-percent chance of being dry with treatment. Men who have incontinence after surgery for benign prostate disease or for prostate or bladder cancer also benefit from current surgical techniques and medical technology, which includes the availability of artificial sphincter implantation," he said.

The third category includes patients having neurological problems, the result of such syndromes as stroke, spinal cord injury, head trauma, multiple sclerosis, Parkinson's disease and diabetes. "Particularly in these cases," said Staskin, "University Hospital has a tremendous advantage, which may not be available elsewhere, in providing social and rehabilitative services." He cites UH's Northeast Regional Center for Brain Injury, the Stroke Data Bank, the Neurosurgery, Neurology and Gynecology departments, and the New England Regional Spinal Cord Injury Center as examples of the resources available at University Hospital.

"The average patient has been operated on two or three times for incontinence before coming to the University Continence Center," said Staskin. "Surgery has exascerbated the problem for some. Many have given up. Others blame themselves for the failure. We want them to know that incontinence is a multifaceted problem. As a major medical center we can evaluate them and refer them to the appropriate resources. Moreover, treatment is often successful and sometimes is very simple."

A new type of laser device developed by UH dermatologist Oon Tian Tan, M.D., makes possible exact targeting of a birthmark or tumor, practically eliminating damage done to surrounding tissues.

New laser approach shows way to cutting side effects, scarring in treating birthmarks

A new type of laser that could revolutionize the treatment of certain facial birthmarks and vascular tumors is being developed by researchers in the Hospital's Dermatology Department in conjunction with Candela Corp., a Natick-based manufacturer of laser equipment. Oon Tian Tan, M.D., a UH dermatologist and an assistant professor of dermatology at Boston University School of Medicine, has been working with the company for the past three years on the development of the Candela Flashlamp-Pump Tuneable Dye Laser.

"It is a very versatile laser that allows the user to choose the desired (light) wavelength by using different dyes of specific wavelengths," explained Tan. As a result, the laser can be used for more than one type of task and makes possible exact targeting of the birthmark or tumor, practically eliminating damage done to surrounding tissues.

Tan's research has focused on the treatment of portwine stains, deep red blemishes that usually appear on the head, neck or torso. Some are only a few square centimeters in size, but others can cover the side of a person's face. For many years dermatologists could do little more than recommend makeup or try harsh surgical techniques, such as skin grafts or freez-

Oon Tian Tan, M.D.

The dye laser promises to make treatment of portwine stains less traumatic, especially for children

ing the affected skin using dry ice.

With the advent of the argon laser, physicians had an effective tool for the treatment of many portwine stains, but not all. The idea was to use laser energy to close the abnormal blood vessels under the skin's surface that give the portwine stain its characteristic deep red color. Argon laser treatment can lighten 70 percent of portwine stains but the treatment is painful. The blue-green beam of the argon laser is not absorbed strongly in blood, and much of the laser's energy diffuses into the surrounding tissue. A local anaesthetic is required because the diffused energy heats the blemish so much it causes third-degree burns, which can cause scarring. However, when the burns heal, the new skin is much lighter than the stain.

Researchers, including Tan, are testing organic dye lasers with wavelengths that can be tuned to hemoglobin's peak absorption. The dye laser promises to bleach previously untreatable portwine stains, and make treatment less traumatic, particularly for children, those with light-colored stains, and those whose skin is susceptible to scarring.

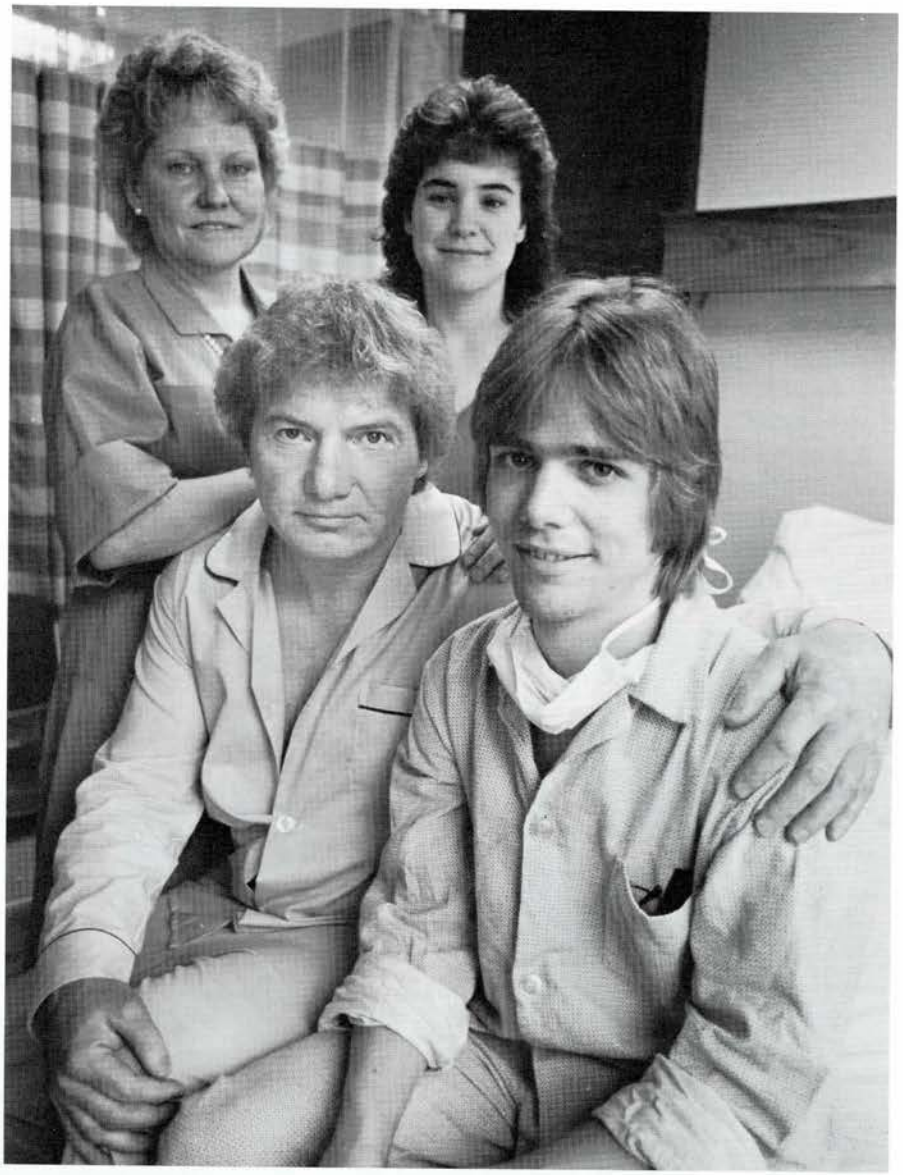
Better control of dosage

In contrast to the argon laser, the dye laser can control its energy dosage better. This results in minimized damage to the surrounding tissue and greatly reduced scarring. The hope is that the dye laser will both minimize side effects and allow treatment of patients who could not be helped with an argon laser.

So far, Tan has treated about 30 patients with portwine stains with a pulsed dye laser. Tan treats patients in several 20-minute sessions, which gradually bleach the birthmark. She says patients feel a pricking sensation when a laser pulse hits their skin, and only mild heating rather than the burning sensation caused by the argon laser.

In a recent report prepared in conjunction with colleagues from Northwestern University, Tan saw no scarring at all, adding that "postoperative wound care is unnecessary and no infections have occurred." Her results have been so encouraging that the federal Food and Drug Administration lets her treat children "as young as the parents wish."

Tan is continuing her investigations of laser-tissue interactions and also is studying dye lasers for treatment of other, more common, skin lesions, such as prominent blood vessels in the nose.



Richard Mikenas, right, of Weymouth, Mass., last March received a kidney from his father in an operation performed at University Hospital by Frank LoGerfo, M.D., director of UH's renal transplant surgery service. Mikenas, who suffers from Alport's syndrome, a hereditary degenerative renal disease, is pictured here with his father, his wife, Debby, top right, and his stepmother, Mary.

Appointments and promotions to administrative team announced

Hospital President J. Scott Abercrombie Jr., M.D., has announced several promotions within and additions to the Hospital's senior administrative staff. Jacqueline Dart, who for six years has served as a clinical administrator, recently was promoted to the new position of senior clinical administrator. In this role, she is responsible for administrative support of the Hospital's clinical operations. Dart has been with UH since 1970 in a variety of roles.

The Hospital's new chief financial officer, Ronald M. Lijewski, joined the UH administrative staff last January. Lijewski previously served as vice president of financial affairs at St. Joseph Hospital, a 460-bed community hospital in Towson, Md.

Craig N. Melin was appointed external affairs administrator last January. Melin is directly responsible for strategic planning and the Hospital's Planning Department and Department of Health Systems Services. Before he joined UH administration, Melin served as a senior associate at the Cambridge Research Institute.

Marsha E. Baron-Berg, M.Ed., was named a clinical administrator. Baron-Berg joined the Hospital staff in 1984 as an assistant clinical administrator. While at UH, she has served as director of data operations.

Kenneth H. Belcher was named a clinical administrator. Previously, he served as acting chief financial officer and assistant fiscal administrator. He has been with UH since 1975.

UH Magazine wins first place honors, editorial named for writing excellence

University Hospital magazine, launched two years ago by the Boston University Medical Center Office of Informational Services, was chosen for top honors in the external publications category of the annual New England Hospital Public Relations Association competition. The first-place award for magazines, accepted by editor Owen J. McNamara, was presented at NEHPRA's annual meeting held in March in Boston.

The NEHPRA judging panel also honored University Hospital with an award of excellence in writing for an editorial written by University Hospital President J. Scott Abercrombie Jr., M.D. The article, "The Business of Hospitals," appeared in the Boston *Globe* "Business Extra" opinion section and was reprinted in the Spring 1985 issue of *University Hospital.*

Abercrombie, who is the current chairman of the Council of Boston Teaching Hospitals, frequently writes on the role of teaching hospitals and issues affecting patient care, research and medical education.

NEHPRA, which has about 200 member hospitals throughout the New England region, holds its annual meeting and competition in conjunction with the New England Hospital Assembly. This year's awards competition was judged for NEHPRA by the New Jersey Hospital Marketing and Public Relations Association.

University Hospital nurses involved in the recent Greater Boston Walk for Hunger earned more than $3,000 to support Project Bread. Among them, from left, were Joan Russo, R.N., assistant nursing administrator; Marilyn Pires, R.N., clinical specialist in Rehabilitation Medicine; Karen Kirby, R.N., UH nursing administrator; and Anna Bissonnette, R.N., assistant director of the UH Home Medical Service. Nursing Department members also coordinated a number of first-aid stations for participants in the Walk, which was held in support of Boston-area programs to relieve hunger and to provide shelter for the homeless.

With Help From Our Friends

PROFILES IN PHILANTHROPY

The patient-care ideals of former nurses inspire Lincoln Funds

The exemplary nursing careers of one man's wife and his mother have inspired him to initiate a fund that has paid for the redesign of the patient lounge in the Hospital's general surgery unit. It is planned that the recently-established Lincoln Funds also will provide a 24-hour nutrition service for patients and their families, special patient-education programs and materials, and a supply of magazines, puzzles and games in the refurbished lounge.

The Funds were established last July by former Hingham, Mass., resident Pete Lincoln and his sons, Tom and Tim, as a tribute to Lincoln's mother, the late Eva Atwood Lincoln, R.N., and his late wife, Arylene Brueggeman Lincoln, R.N.

Long-standing ties to Hospital

The two women had long-standing ties to University Hospital, at that time called Massachusetts Memorial Hospitals. Both women graduated from the institution's School of Nursing—Eva in 1928 and Arylene in 1957—and both served as registered nurses at the Hospital.

Pete Lincoln's mother first met his father—an appendectomy patient—at Massachusetts Memorial in 1928. In addition, Pete Lincoln and his sister, Louise MacKinnon, were born at the Hospital.

Businessman Pete Lincoln, who with his sons, Tom and Tim, established a fund at UH honoring his wife and his mother.

According to Pete Lincoln, it was Arylene's wish to find a way to create a tribute to her mother-in-law. Arylene and Pete Lincoln both felt that the tribute must somehow provide direct aid and comfort to patients, in keeping with the life of a woman who was devoted to caring for the sick. "My mother had a very unusual talent," says Lincoln. "The nurses who worked alongside her say that she was always available for consultations."

At the time of her mother-in-law's death, Arylene Lincoln had already been diagnosed as having cancer. She died on July 8, 1985, after a five-year struggle with the disease. Lincoln says he believes it fitting that his mother and his wife be honored together, as they were very close friends who shared a strong dedication to the nursing profession.

With this in mind, Lincoln contacted Michael Valentine, director of University Hospital's Development Office. According to Valentine, "Pete Lincoln wanted to create an active, dynamic tribute to his mother and his wife which not only he and his sons could support, but which also could be a catalyst for getting others to support the Hospital in its efforts toward the special needs of patients and their families."

Family friends join in

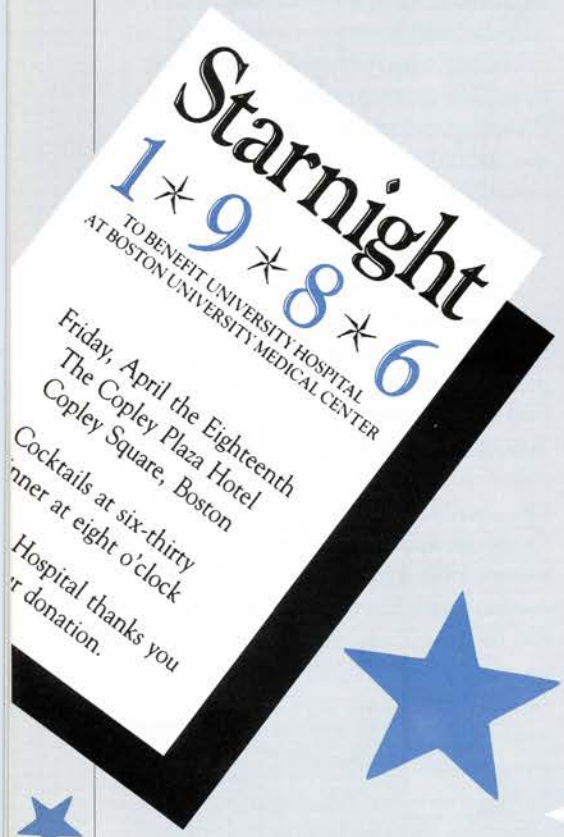
Lincoln then wrote personal notes to more than 300 friends of his family to tell them about his project, and to encourage them to participate. Since then, more than $20,000 in contributions have come in from 135 individuals. Last October, Lincoln and Nancy Douglas, a classmate of his wife, selected the Hospital's general surgical unit on the second floor of the Preston Family Building as the focal point for the project. They chose to renovate and refurnish the area so that it could better serve the needs of patients and visitors.

According to Pete Lincoln, "The object of this whole project is not to memorialize two people: it is to carry their work forward. These two people wanted to do things for others." In this spirit, the shared motto of the two women—"There is no greater challenge or greater reward than giving aid and comfort to the sick at their time of need"—is engraved on the bronze bas-relief portrait of Arylene and Eva that was created for the inauguration of the Fund.

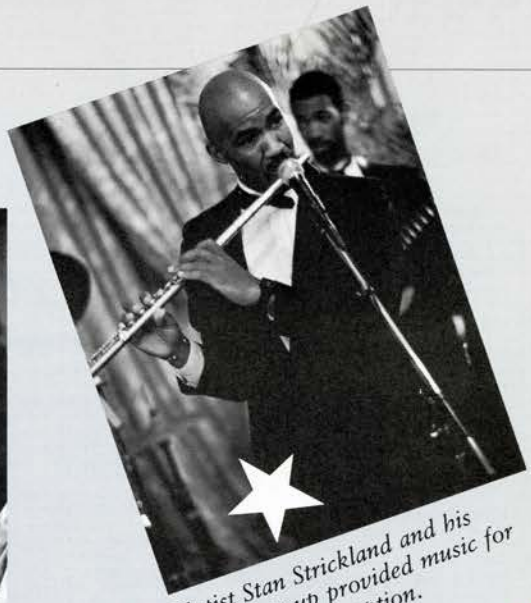
The portrait, which was unveiled at a dedication ceremony held last February, was sculpted by Philadelphia artist Cesar Rufo, a longtime friend of Pete Lincoln's, who also has created a 60-medal collection

Continued on Page 28

A number of Boston artists, including vocalist and recording star Rebecca Parris, mime-magician David Zucker, and the Boston University Concert Band provided a wide variety of entertainment at "Starnight 1986," the Ninth Annual University Hospital Gala Benefit. The event was held on Friday, April 18, at the Copley Plaza Hotel to benefit the Hospital's Annual Fund.

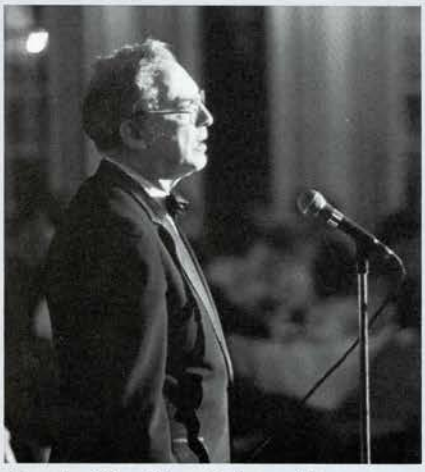


Mime David Zucker clowns around with UH staff member Robert Schwartz, M.D.



Flutist Stan Strickland and his backup group provided music for the evening's reception.

Jazz vocalist Rebecca Parris provides after-dinner entertainment for Starnight guests.



Hospital President J. Scott Abercrombie Jr., M.D., welcomes guests.

Master of ceremonies Lanie Zera impersonates a Boston meter maid.

Boston University Concert Band serenades guests from the Copley Plaza's ballroom balcony.

The Fund provides seed money to launch such new projects as the University Continence Center and the Cardiac Rehabilitation Program. In addition, the Fund helps UH to meet emergencies and to provide the newest in medical technology.

Approximately $30,000 was raised from Starnight proceeds. The following organizations and institutions donated more than 400 tickets so that Starnight guests could attend future events:

John F. Cogan Jr., chairman of the Hospital's board of trustees, introduces the evening's entertainment.

American Repertory Theatre
The Boston Ballet
The Boston Bruins
The Boston Camerata
The Boston Celtics
Boston Children's Museum
Boston Lyric Opera Company
The Huntington Theatre Company
Boston Symphony Orchestra
Collage
Boston Composer's Orchestra
Revels Inc.
The Comedy Connection & New England Comedy Network
The Museum of Science & Charles Hayden Planetarium
Pro Musicis Foundation
The Civic Symphony Orchestra of Boston
Boston Concert Opera
The Museum of Transportation
Pamela Frame
The New Ehrlich Theatre
The Institute of Comtemporary Art
The Computer Museum
New England Conservatory of Music
The Masterworks Chorale
Boston Youth Theater
The Spingold Theater Center
Dance Collective of Boston
"Shear Madness"
Boston Red Sox
The Greater Boston Youth Symphony Orchestra
"Rap Master Ronnie"
New England Aquarium
Water Music Cruises
Regattabar
"Little Shop of Horrors"
North Shore Music Theatre
Museum of Fine Arts
"Forbidden Broadway"

Jeannette Neill and J. Allen Collier of the Jeannette Neill Dancers trip the light fantastic.

Continued from Page 25

commemorating the great operas for the Bicentennial of La Scala Opera House in Milan. The bas-relief plaque will be hanging on the second floor of the Hospital's Preston Family Building until the Hospital's Partial Replacement Project is completed, at which time the plaque will be relocated.

As is evidenced by his involvement in the project, Lincoln is a firm believer in the importance of philanthropy. According to Lincoln, "As the pendulum swings further away from third-party support for innovations in the delivery of health care and services, it becomes more and more important that individuals help to support the health-care facilities that they utilize."

Wants to see idea spread

Lincoln says he hopes that once other families receive the benefits of these gifts, they in turn will want to make similar gifts to continue the program in the general surgery unit. He also says he would like to see the idea spread to other units of the Hospital: "Perhaps other families will see what is possible, and decide to imitate this project."

What makes this project special, according to Valentine, is that the work of Pete Lincoln and his sons demonstrates how a family and their friends can make a lasting contribution by expanding the range of care and services that the Hospital is able to offer.

The U-Help Fund helps UH employees meet patient, family needs

University Hospital employees are known for using every skill and tool possible to help their patients to deal with illness. Now, they have a "tool"—money—that can help the patients in some small but very special ways. In its second year of operation, the employee-established U-Help Fund has enabled Hospital employees to meet the needs of hundreds of patients and their families.

Since its initiation, the Fund has met many requests that otherwise could not have been fulfilled due to patients' limited income or lack of insurance. These requests, which are made by staff members on behalf of individual patients, include funds for family reunions, such special medical equipment as recliner chairs and bath seats, visiting nurse services, and temporary financial aid due to loss of income during a patient's stay at UH.

Frank McCaffrey, M.S.W., a clinical social worker in the Hospital's Social Work Department, says that the fund is a great resource because it benefits not only patients and their families, but also benefits UH employees: "The fund helps us to respond to and gain assistance for some of the more difficult situations that families are thrown into by a medical crisis. The patients and families who receive help from the Fund are always so surprised and grateful. It's a nice feeling to be able to help them."

The Fund last year was featured in stories by the *Boston Globe* and the *Boston Herald* when a University Hospital patient was flown to a New Jersey hospital for an artificial-blood transfusion. Because of his religious beliefs, the patient was unwilling to accept the whole blood that he would have been given at UH. The Fund made the artificial-blood transfusion possible by paying airline costs that the patient and his family could not afford.

Trip for a young patient

The Fund also came through for a young cancer patient who had never been on a trip and was trying to save enough money to take a vacation. Because neither the patient nor her family could make the wish a reality, the patient's nurse filled out an application to the Fund on her behalf. As a result, the U-Help Fund arranged for the patient to take a trip to Barbados, with help from Fresh Pond Travel, which offered the trip at cost. The Fund paid for the remainder of the patient's expenses.

While any UH employee may submit an application for any patient, the majority of requests so far have come from social workers, nurses and physicians, who work most closely with patients and as a

The Evans 7 Medical Intensive Care Unit's patient lounge this spring was spruced up by former patient Irvin Petkun, the president of a Needham company that provides furnishings for nursing homes, and his wife, Edith. Petkun designed the new lounge and provided new furniture, carpeting and art objects. Guests at a reception in Petkun's honor included, from left, Lana McGee Wolff, R.N., head nurse in the MICU; Dennis Beer, M.D., physician coordinator of Evans 7; Irvin Petkun; Hospital President J. Scott Abercrombie Jr., M.D.; Edith Petkun; and Michael Klein, M.D., director of Coronary Care.

result are aware of their individual needs.

The U-Help project so far has received a great deal of support from Hospital employees, who last year contributed a record-breaking $22,600 for the Fund, a sum that represents a 22-percent increase over the $18,000 that was raised the year before. According to one grant applicant, Mary Ann McCarthy, R.N., head nurse in Hemodialysis, "The U-Help Fund is a real morale-booster for both the Hospital's employees and its patients."

Hospital supports fund-raising effort for initiation of history project

The Rev. Leicester Potter, D. Min., who two years ago retired as director of the Pastoral Care and Education Department after a distinguished 33-year career at UH, has undertaken a new challenge on behalf of the Hospital—becoming UH's official historian.

Acting on his belief that knowledge of the past can often help us to deal with the present and the future, Potter has gathered information and material related to University Hospital's 131-year history. His efforts will be shared with the rest of the Hospital community through an ongoing history project. Since this is not an expense for which the Hospital can be reimbursed, private donations are being sought to provide a framework for Potter's continuing effort.

A number of friends and former students of John William Strieder, M.D., the Hospital's first chief of cardiothoracic surgery, recently established a visiting professorship in his name at Boston University School of Medicine. Strieder, center, is pictured here with Irving Madoff, M.D., left, who organized the professorship program, and Arthur Roberts, M.D., acting chief of cardiothoracic surgery. F. Henry Ellis Jr., M.D., chief of thoracic and cardiovascular surgery at New England Deaconess Hospital, was the first professor brought to the School through the Strieder professorship.

Four-stage project

The project is made up of four stages, including the preparation of an official history of the Hospital; the publication of that history in a high-quality, limited-edition book; the gathering and cataloguing of a regularly-maintained UH archive; and the design and installation of a permanent historical display within the lobby of the Hospital's new building, which is scheduled to open in 1987.

A committee will oversee each phase of the project. The committee will include representatives of the Hospital's two principal affiliated volunteer organizations—the Massachusetts Memorial Hospital's School of Nursing Alumnae Association and the University Hospital Aid Association. Director of Marketing and Public Affairs Donald R. Giller will be project administrator.

Seed money for the initiation of the UH History Project has been provided by the Hospital. Completion of the project is dependent on donations from friends of University Hospital. Those wishing to make donations can do so by sending donations for the History Project to the University Hospital Office of Development, 82 E. Concord St., Boston MA 02118.

WHY THEY VOLUNTEER

Sandra Fay, undergraduate premedical student at Boston University, and volunteer in University Hospital's Orthopedic Casting Room: "Working in the Cast Room has taught me a lot about what it is *really* like to be a doctor. I feel like I got a peek at the inside."

Employee translators: They add another dimension to patient care

Teaching new skills and providing new experiences for volunteers is the focus of University Hospital's new Volunteer Services Program. The Program, which was initiated last September, has attracted approximately 85 volunteers who between January and April volunteered 3,881 hours to Hospital work.

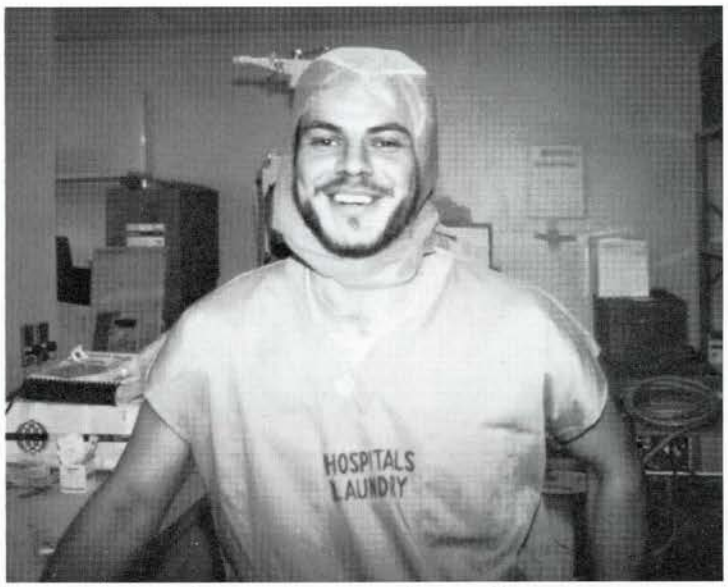
A campaign held last spring to recruit volunteer translators almost tripled the Hospital's existing pool of translators. The campaign also increased the number of languages and dialects that can be translated by volunteers.

Pictured on this page are five UH employees who serve as volunteer translators, generously adding yet another dimension of service to their Hospital contributions.

Francisco Tolentino, supervisor of specimens, receiving and processing in the Chemistry Department, and Portugese translator.

Marguerita Johnson, (right) data coordinator, Lab Administration Services and Spanish translator. Eunice Johnson, (left) secretary in the Respiratory Department, and Spanish translator.

Evelyn Vega, personnel assistant in the Personnel Department, and Spanish translator.



Tony Fallas, anesthesia technician in the Anesthesia Department, and Spanish translator.

Means of Measuring Severity of Illness Crucial to DRG Program's Effectiveness

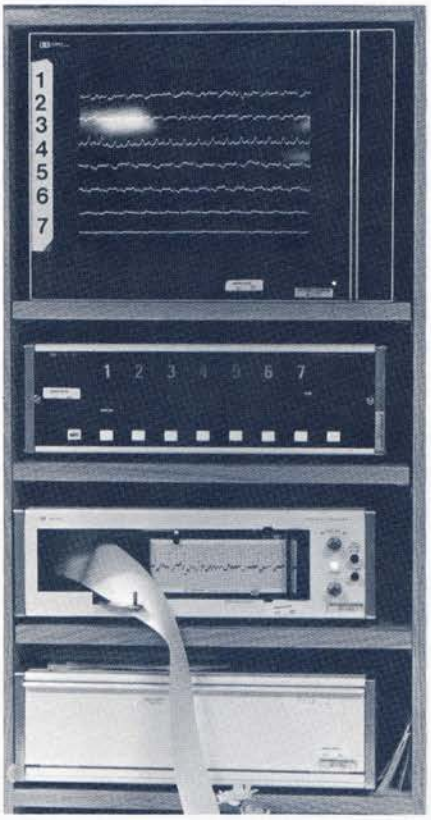
by J. Scott Abercrombie Jr., M.D.

A major issue in health care last fall was the implementation in Massachusetts of the federal Prospective Payment System, the new way of paying for the hospitalization of Medicare patients. Today, implementation is no longer the issue: The PPS program has been instituted, and the government no longer reimburses a hospital for whatever the hospital demonstrates it cost to take care of a patient. Instead, Medicare pays predetermined amounts based on the disease categories that patients fit into, through a classification system called diagnosis related groups (DRGs).

But now, with some nine months of Massachusetts experience and three years of national experience under DRGs, it is time to ask how well the new reimbursement system is working. For although the program is aimed at producing quality care at a lower cost, a number of experts in both government and teaching hospitals warn of serious implications for the care of our severely ill elderly.

The complicated PPS approach has inherent hazards, not the least of which is this: If a hospital can care for a patient for *less* than the amount of money set aside for the patient's particular DRG category, the hospital still gets the pre-set amount of money. But if it costs a hospital *more* to care for a patient in a certain DRG, the hospital loses money. Add to this fact another reality: Some patients in certain DRGs—patients who usually can be found in teaching hospitals—are much sicker than others in the same DRG.

Therein lies the special dilemma facing teaching hospitals: As acute-care referral centers, they are the court of last resort for many patients who can only be called the sickest of the sick. And such patients are likely to fall beyond the norms outlined in the DRGs—in terms of the care normally required, the length of stay normally needed and the number and amounts of tests, medications, and other resources usually called for.



Some patients are likely to fall beyond the norm, in terms of tests and other resources allowed within the particular DRG

To illustrate:

Joe Smith, 68, a resident of the North Shore, is taken to a community hospital suffering from congestive heart failure. Fortunately for patient Smith, his heart-failure episode is a mild one. Two days of close monitoring in the local hospital and a small amount of medication is all that is required to put him back into his regular routine.

Bill Jones, a South Shore resident who also is 68, has the same diagnosis, congestive heart failure, but his physician, recognizing that Jones is having a very serious episode of the disorder, sends his patient to a Boston teaching hospital. Jones is rushed to an intensive care unit, where he is placed under continuous monitoring. Coronary-care specialists, working with highly trained nursing specialists, try a number of medications, until the right combination is found, and Bill Jones is stabilized. He returns home after a long hospitalization.

Although both men had the same medical diagnosis, one was much more severely ill than the other. The medical treatment for both of these patients was appropriate to their individual conditions. But despite the difference in the care the hospitals provided, the Medicare reimbursement was exactly the same: Joe Smith and Bill Jones fell into the same diagnosis related group, DRG #127, and that DRG pays one specific rate.

The PPS system does take into account in its payment scheme the intensity of care required to deal with the various categories of illness. For instance, spinal-cord injury requires more intense care than a broken ankle, and the prospective DRG reimbursements for those conditions reflect that difference.

But as we have seen above, all patients in the same DRG category

are not equally ill. The truth is that within some DRGs—for instance, gastrointestinal bleeding—you can have one person who is mildly ill and another who is near death.

There are patients in numerous other DRGs who require unusually long or expensive hospitalization. Those severely ill patients are commonly called "outliers" because the scale of their care and treatment lies far beyond the usual range set by the DRG categories. While there is extra reimbursement for outliers, it is insufficient in terms of the full cost of care. Naturally, teaching hospitals, as referral centers for acutely ill patients, are the appropriate places for outliers. However, the problem for those teaching hospitals is that they have too many patients for whom they are receiving too little reimbursement. Hospitals will be caring for such patients at greatly increased financial risk.

Teaching hospitals not only are important to the individual who is acutely ill but also provide the core experience of all medical education. At a teaching hospital, a medical resident or student must be exposed to patients with a full range of clinical conditions. Because the residents are on hand 24 hours a day, the patient gets much closer support and intensive care than would be available in a non-teaching hospital—and because of the severity of their illness, they need every bit of that care. This process, and the clinical research that often accompanies care-giving and medical education, helps pave the way for major advances in diagnosis and treatment, while preparing the young physician to meet patients' needs in the future.

Government financing of health care in recent years has implicitly recognized the unique role played by teaching hospitals, for instance, by allowing higher reimbursement for patient care. When the prospective payment system was adopted in 1983, financial recognition of the teaching role and the higher level of illness found in teaching hospitals was addressed by payments for direct and indirect medical education costs. Direct costs were expressed in federal support for the salaries of residents and interns. Indirect support also was provided in recognition of the commonly accepted idea that many patients seen in teaching hospitals are more acutely ill than those found in nonteaching hospitals.

Until now, funds resulting from this form of federal support for teaching hospitals have helped them to deal with the extra costs involved in caring for patients who are outliers, whose severity of illness costs the hospitals more than they can collect under the DRG system.

An appropriate way to resolve the problem is to find ways to measure severity of illness among the 'outliers'

Even that tenuous form of financial support is now in grave danger of being eliminated, as the Reagan Administration and Congress work to cut the federal deficit. The legislative budget-makers aim to cut indirect compensation for medical education in half.

Teaching hospitals today have their backs to the wall. They can't say "we will continue serving the most acutely ill patients until we ultimately go out of business." Conversely, they can't say "we will turn our backs on those patients in order to stay in business." Their business *is* caring for the acutely ill, and at the same time training new physicians to care for such patients in the future.

It is thus apparent that if medical education costs are going to be cut and if the DRG system is going to remain in effect, some way has to be found to provide expert care for the sickest of our patients, and to do so without placing teaching hospitals and their medical education programs at further risk. An appropriate way to do that, given the cost constraints, is to find a way to measure severity of illness, and to build that into the DRG reimbursement methodology.

Several possible measures of severity are being tested, and the federal Health Care Financing Administration, which helps set recommendations for hospital reimbursement, is attempting to determine which system can best measure the true cost. University Hospital physicians and health-planning specialists are involved with HCFA in this national effort. In addition, experts from six Boston teaching hospitals have joined to conduct a similar study of outliers.

The Boston Hospital Consortium—made up of Beth Israel, Brigham & Women's, Massachusetts General, New England Deaconess, New England Medical Center and University Hospital at Boston University Medical Center—is studying patients in a number of DRGs whose unusually long or expensive hospitalizations make them DRG outliers. The Boston study aims to identify those factors that cause patients to become outliers, and to separate such causes into those that can be altered and those that cannot.

Severely ill patients present a special challenge to health-care providers and to health planners in and out of government, and that challenge has to be met soon. If not, some of our nation's premier medical centers will suffer financial damage that could interfere with their ability to provide vital services for the acutely ill and could fatally damage their medical-education programs.

J. Scott Abercrombie Jr., M.D., the president of University Hospital at Boston University Medical Center, is chairman of the Council of Boston Teaching Hospitals.

UNIVERSITY HOSPITAL'S NEW **CARDIAC REHABILITATION** PROGRAM

The Cardiac Rehabilitation Program offers a unique approach to care for individuals who have heart disease.

The Program is located at Fitcorp HealthCare Center, a modern fitness complex at 133 Federal Street in Boston. This site will be convenient both for individuals who work downtown and for those who will take public transportation in-town for this rehabilitation program. Free parking is available near the center.

The Cardiac Rehabilitation Program provides medical supervision of exercise conditioning, diet and stress-reduction therapy for individuals referred for:

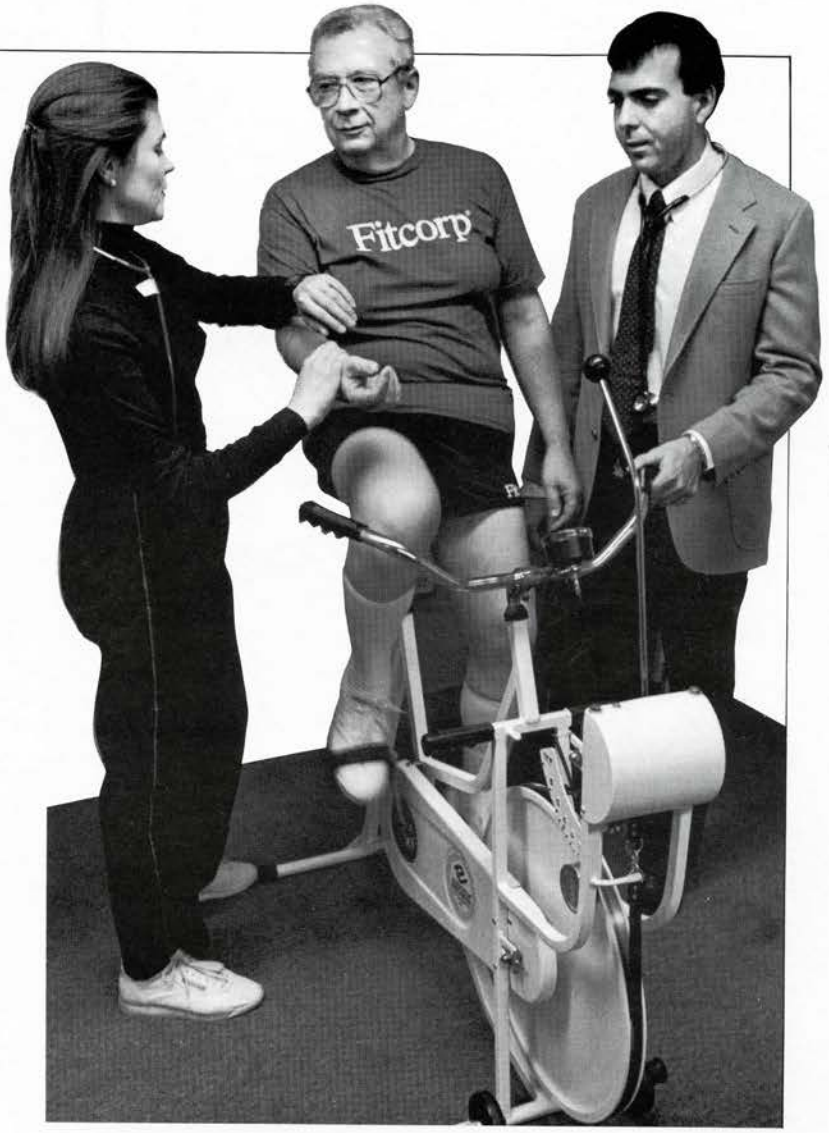
- Stable angina
- Recent heart attack, coronary bypass surgery or coronary angioplasty
- Class I-II congestive heart failure

A cardiologist, a cardiac nurse specialist, an exercise physiologist, a nutritionist and a psychologist make up the Program's rehabilitation team.

For more information about the Cardiac Rehabilitation Program, please telephone Gary J. Balady, M.D., of the Cardiology Section at **617/638-8700.**

Carol O'Malley, R.N., our Nurse Specialist at Fitcorp HealthCare Center, will also be happy to provide additional information about the Program. Please telephone Ms. O'Malley at 542-1010.

If you would like a copy of the brochure for our Cardiac Rehabilitation Program, please fill in the form and return it to:
Marketing/Public Affairs Department,
University Hospital,
75 East Newton St.,
Boston, MA 02118.



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CITY STATE ZIP CODE

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at Boston University Medical Center
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THE devastating effects of spinal cord injury predominantly befall young, physically active men. However, University Hospital's New England Regional Spinal Cord Injury Center, one of 13 regional model centers in the nation, has a long history of developing new approaches to treating and rehabilitating spinal cord-injured patients. Thanks to many new developments in treatment and rehabilitation, the outlook has improved for patients like Kevin Hollister (pictured here with the Center's head physical therapist Susanne Lobley, R.P.T.). One of those advances, developed by a UH orthopedic surgeon, allows a patient to get out of bed and into rehabilitation sooner. See stories, beginning on page 2.